

# BASKET BALL

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Yardlaw and Morrison





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CHARLES SCRIBNER'S SONS

# **BASKET BALL**







FIG. 1. CORRECT GUARDING.

No Personal Contact.

# BASKET BALL

A HANDBOOK FOR COACHES AND PLAYERS

BY

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## PREFACE

IT has been about thirty years since the game of basket ball was invented. In all that time there have been comparatively few articles written or books published on this sport, which has become so popular in America. Throughout ten years' experience in coaching and teaching in normal schools, colleges, and universities, the authors have been continually impressed by the need of sufficient material on this subject.

There is probably little in this volume that is new to the experienced college player, but the authors have attempted to analyze the game scientifically and to present the material in a logical way.

Men prominent in basket ball throughout the country have contributed their thought to this work, and it is a source of regret that many more could not have been consulted. Appreciative acknowledgment is due especially to Mr. Edward Thorp, coach of the N. Y. U. championship team of 1919-20-21 and prominent basket-ball official, for reading the manuscript and checking over the

diagrams; Mr. Ralph S. Patch, of the Plainfield High School; Mr. Chauncy M. Stewart, for three years Cornell 'Varsity forward; Dr. L. B. Chenoweth, University of Cincinnati; Mr. W. D. Hartshorne, Jr., of the Wardlaw School; the basket-ball class of the summer of 1920, Columbia University, who worked out situations presented in the diagrams; to those three members who posed for the illustrations; and to many other friends and critics whose suggestions and help were so valuable to the authors.

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## INTRODUCTION

OVER a period of some years I have spent most of my leisure in games and sports. In these activities I have had a variety of experiences, and have learned many things that seem to me very much worth while.

Sometimes I have played alone with only snow-shoes as special equipment, or a fishing-rod, or a dog for companion. Sometimes I have been one of a group, a member of the team. Sometimes I have been the organizer, the director back of the play.

But, after all, the happiest memories of play or sport are those of the men with whom I have played. Both Mr. Wardlaw and Doctor Morrison are in this retrospect of mine; I have played with them many times.

And so when the opportunity to read the manuscript and to write an introduction for their book came to me, it was grasped eagerly, because I felt that I could speak with assurance and confidence, knowing more than the manuscript could tell, or the professional athlete could pass upon.

As I look over the text, I am impressed with

the clear, definite, detailed analysis of confusing points; but I am not surprised, because I have seen the minds of these two men at work on similar problems with similar results. As I note the broad, tolerant attitude on moot questions, where the judgments of others are just as good as the authors' judgments, I recall the good sportsmanship evident in our many games together. The book throughout has given me a cinema view of our athletic battles on the courts. I see the quick analysis of the problem involved, the various hazards of the possible play, the decision on the plan of attack, the carrying through to the end.

In the professional field of physical education, a book on the coaching of basket ball has been needed particularly. Several attempts have been made in the past. Famous players, men with reputations of national significance, have written on the playing of the game, but it has remained for two teachers, who have gone through the experience of teaching boys and college youths the technic involved in the game, to analyze in detail this technic, study and present the subject from the standpoint not only of its kinesiology but also its physiology and psychology.

Athletics in America are passing through critical years. Professionalism, high specialization,

and proselytism are cancerous growths in college sport, which need the knife for cure. Some who sense the danger are wont to advocate the English method of sport. They see values there, but overlook the characteristics of the American people. It seems rather that we must develop our games, sports, and athletics in harmony with our dominant national traits, and we must make sure beyond chance that we utilize these activities for the development of the finest and best in health and character in the young men of the nation.

A book such as this, which sets standards of play, which tends to make the game uniform, and thus leads to better understanding and better play, which emphasizes the amateur and unprofessional spirit, will contribute greatly to the larger goal of basket ball—the health and character of the American youth.

JESSE FEIRING WILLIAMS.

Teachers College, February, 1921.



*PART I*

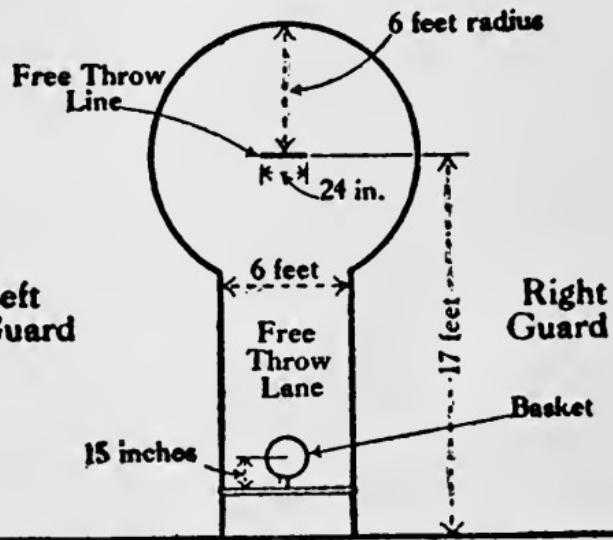
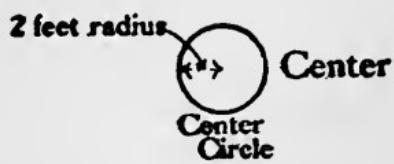
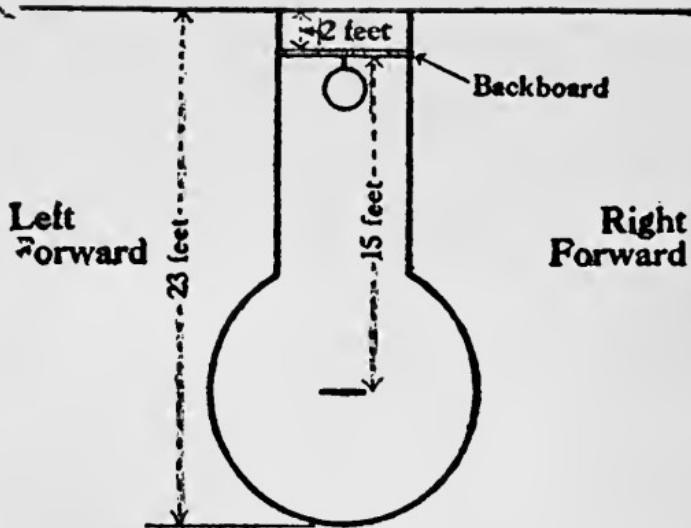


DIAGRAM OF A BASKET BALL COURT

# BASKET BALL

## CHAPTER I HOW THE GAME IS PLAYED

Basket ball for men is played by two teams of five members each. The object of the game is to score as many points as possible by tossing the ball into the opponents' basket,\* and at the same time to prevent the other team from scoring.

The game is played on a rectangular court, approximately forty by seventy feet. These dimensions may vary, however, according to the available space. The playing area is enclosed by well-defined lines. The court is further marked off by a circle in the centre and free-throw lines at both ends.

Aside from the court the only other equipment necessary is a ball and two backboards, one for each end of the floor. The ball is made of a rubber bladder, enclosed in a leather case. The backboards are four by six feet in size, and are

\* In this work the authors refer to the basket into which a team is throwing the ball as "opponents'" basket; the goal which the team is defending as "own" basket. Although contrary to the definition in the "Official Rules," historical nomenclature and the logic of the situation justify this stand.

usually made of plate glass or of wood painted white. The baskets are made of cord or other soft material, and are suspended from metal rings which are attached to the backboards.

The personnel of a team is composed of two forwards, a centre, and two guards. The forwards are primarily responsible for the scoring, the guards for preventing the scoring of the opposing team, while the duties of the centre may be either. Under present systems of play any or all members of the team may take part in the offense or defense.

The game is started by the referee, who tosses the ball up between the two centres in the middle of the floor. Each attempts to bat the ball to one of his team-mates. The side securing it immediately goes on the offense, and endeavors by a series of passes or dribbles to advance the ball near enough to the opponents' goal to make a successful shot. The team failing to secure the ball is compelled to fall back on the defense, where it attempts to prevent the opponents from making a basket, and at the same time tries to get possession of the ball, after which it becomes the attacking side. When a member of one team causes the ball to go out of bounds, it is returned into the court by a member of the opposing team, who, bringing it to the point where it left the court, may pass it in any direction to any one of

his team-mates. Certain very definite rules and regulations govern play. (See Spalding's "Official Rules.") The player having possession of the ball may neither run with it nor kick it, but must advance the ball by passing, dribbling, or shooting. The player on defense may not tackle, trip, shove, or use any method that is unnecessarily rough, but must secure the ball by intercepting a pass or taking it from an opponent without coming in bodily contact with him. Violation of any of the rules constitutes a foul.

When a basket is made from the field two points are scored; when made from the foul-line in what is known as a "free throw," one point. The actual playing time consists of two twenty-minute halves. For young boys four ten-minute quarters may be used. The visiting team has choice of goals, which are exchanged at the end of the first half. The officials are a referee, an umpire, two time-keepers, and two scorers. Their duties are explained in the official rules.

A summary of playing terms follows:

### PLAYING TERMS

#### GOAL, WHEN MADE

SECTION I. *A Goal* is made when the ball enters the basket from above and remains in or passes through.

**PLAYER OUT OF BOUNDS**

**SEC. 2.** *Out of Bounds*—A player is out of bounds when any part of his body touches the boundary line or the floor outside of the boundary line.

**BALL OUT OF BOUNDS**

The ball is out of bounds when any part of it touches the boundary line, the floor outside the boundary line, any object outside the boundary line, or when it is touched by a player who is out of bounds.

**WHO CAUSES BALL TO GO OUT OF BOUNDS**

The ball is caused to go out of bounds by the last player touched by it before it crosses the line.

**HELD BALL**

**SEC. 3.** *Held Ball* is declared when two players of opposing teams have one or both hands on the ball, or when one closely guarded player is withholding the ball from play.

**“TIME OUT”**

**SEC. 4.** “*Time Out*” is declared whenever the game can be legally stopped without the loss of playing time.

**FOUL**

SEC. 5. *A Foul is a violation of a rule for which a free throw is allowed.*

**DEAD BALL**

SEC. 6. *The Ball is Dead and play shall cease until the ball is put in play again in a manner indicated by the Referee:*

- a. When a goal is made. (Centre ball.)
- b. When the ball goes out of bounds.
- c. When held ball is declared.
- d. When "time out" is declared.
- e. When a foul is called.
- f. After each of the two free throws following a double foul. (Centre ball.)
- g. At expiration of playing time.
- h. When the ball lodges in the supports of the basket. (Centre ball.)
- i. After the first of two free throws following two fouls on the same team.
- j. After an illegal free throw. (Centre ball.)

**RUNNING WITH BALL**

SEC. 7. *Running with the Ball is progressing in any direction while retaining possession of the ball.*

**DRIBBLING**

**SEC. 8.** *A Dribble* is made by a player giving impetus to the ball by throwing, batting, bouncing, rolling, fumbling, or muffing it and touching it again before it touches another player. The instant the ball comes to rest in either one or both hands or touches both hands simultaneously the dribble ceases.

**HOLDING**

**SEC. 9.** *Holding* is personal contact with an opponent that interferes with the opponent's freedom of movement.

**BLOCKING**

**SEC. 10.** *Blocking* is impeding the progress of an opponent who has not the ball.

**FREE THROW**

**SEC. 11.** *A Free Throw* for goal is the privilege given a team to throw for goal from a position directly behind the free-throw line.

**DOUBLE FOUL**

**SEC. 12.** *A Double Foul* is made by both teams having fouls called against them simultaneously.

**DELAYING GAME**

**SEC. 13.** *Delaying the Game* is unnecessarily interfering with the progress of the game by a player.

**OWN GOAL\***

SEC. 14. *Own Goal* is the basket for which a team is throwing.

**EXTRA PERIOD**

SEC. 15. *Extra Period* is the five-minute extension of playing time necessary to break a tie score.

**TECHNICAL FOUL**

SEC. 16. *Technical Foul* is any foul not involving personal contact.

**PERSONAL FOUL**

SEC. 17. *Personal Foul* is holding, blocking, tripping, pushing, charging, or committing any other form of unnecessary roughness.

**DISQUALIFYING FOUL**

SEC. 18. *Disqualifying Foul* is rough play for which a player is removed from the game.

\* See footnote, page 3.

## CHAPTER II

### HANDLING THE BALL

The most essential factor in successful basket ball is the mastery of the fundamentals of the mechanics of play, namely, the handling of the ball and the body. In any game success or failure is determined by the strength or weakness of the human element. The most elaborate system of offense or defense is invalidated when some one fumbles the ball. In the following chapters, under Part I, we shall discuss and elaborate on the various ways of catching, passing, dribbling, and shooting the ball; also the correct methods of using the body in starting, stopping, jumping, turning, pivoting, and dodging. A coach cannot spend too much time on these fundamentals. Skill, smoothness and speed, which are essential to successful playing, are acquired not by elaborate strategy but by tireless practice of the primary elements of the game. An ill-timed pass, a fumbled ball, the inability to pivot or make a turn, the failure to make an easy shot may, at a critical moment, destroy a hard-earned oppor-

tunity and throw the advantage to the other team. Although the apparatus used in basket ball is simple, yet on account of the new and skillful co-ordinations required there is, perhaps, no other game where definite, scientific coaching bears better results.

The movements or co-ordinations used in many of the team games are natural ones. They are inherent, and have been practised from infancy by most boys. In basket ball, however, new methods of handling the ball and the body have to be worked out and developed. Skill in base-ball, for example, is more easily acquired, because the necessary co-ordinations have been to a large extent developed before the boy comes under the control of the coach. He has been throwing stones or playing with a bat and ball from childhood. A basket ball he has perhaps never seen, nor any other object handled in a similar way. Such movements as are required in making an overhead pass or a chest shot are entirely new, and skill can be acquired only through careful coaching and constant practice.

### PASSING

The ultimate aim of the offense is to throw the ball into the opponents' basket; but before this can be done the ball must be worked down the

court to a position where a shot can be made. This is done largely through passing. It is obvious then that before a team can hope for success it must be proficient in this part of the game. It is seldom that one sees a winning team that does not have good passing and good team-work, while the most marked characteristic of the playing of a losing team is usually poor passing. Passing is the element of play that will most constantly demand the attention of the coach. It is vital that he do not neglect it. Perfection in this department of the game is rarely attained, but the more nearly a team comes to it the more likely is it to win. The explanation of why teams lose possession of the ball so often is in a large majority of cases simply poor passing.

### *Kinds of Passes*

Passes are made with two hands or one hand. In general the short passes are made with two hands, largely because they are more accurate. For greater distance the one-hand pass is better, because the ball can be thrown farther and with greater force. Passing should be first taught while the player is in a stationary position. After proficiency is acquired it should be taught while the players are in motion, simulating more nearly the actual conditions of the game.

## TWO-HANDED PASSES

*Underhand.*—The first of the two-handed passes is the natural one made from some low position near the floor to left, right, or forward. This pass may be made at any time, but is especially valuable when pivoting away from a guard. It may be used in either of two ways: with a long, free, underarm sweep, or by a mere snap of the wrists and hands.

*Overhead.*—(Fig. 2, facing page 14.) This pass enables a team of tall players to take advantage of their height and pass the ball over the heads of their shorter opponents. It may be made either as a hard drive or an easy lob. The latter is safe only for short distances. It is an excellent pass to use in feinting. Because of the sure grip on the ball the player is enabled to feint in one direction and throw the ball in another.

*Mechanics:* In making this pass the ball is held high overhead between the hands, fingers outspread, palms facing each other, and thumbs nearly parallel behind the ball, while the elbows are slightly bent to give better control. The ball is thrown with a forearm and wrist movement. A step forward gives greater driving power.

*Chest.*—(Fig. 3, facing page 18.) The chest pass is a sharp, snappy, two-handed pass made

from a position in front of the chest. It is one of the most popular and useful of all passes. It can be made quickly because the ball is so often caught in front of the body, and from there can be got away, without further preparation, by a wrist snap and extension of the forearm.

*Mechanics:* The ball is held chest high between the hands, palms facing each other, fingers out-spread, thumbs parallel and pointing upward, and the elbows close to the body. If started nearer the waist-line and brought up as the arms are extended the pass is made with greater force.

*Sideward.*—(Fig. 4, facing page 20.) The side-arm pass is made from one side when the player wishes to pass in the direction across his body. It may also be used when passing forward if started high above the shoulder.

*Mechanics:* The ball is held in both hands at one side of the body, elbows partly flexed. If the pass is made forward or to the left, the left hand is on top of the ball and the right underneath it. The reverse is true if the pass is made to the right. A snap of the wrists with a slight fore-arm action is used to drive the ball. A step in the direction the pass is made gives greater force.



FIG. 2. OVERHEAD PASS.—PAGE 13.



### PASSES—ONE-HAND

**UNDERHAND PASS.**—(Figs. 5 and 6, facing pages 24, 28.) The underhand pass is one of the easiest methods of sending the ball from one player to another. It follows a natural co-ordination of a free underhand swing, and permits of great speed.

*Mechanics:* The ball is held, fingers outspread, the arm hanging by the side. The hand and arm are carried to the rear. The drive is made by swinging the hand and arm to the front, and is best followed through by a step forward with the left foot. The swing of the arm in pitching an indoor baseball, or in bowling ("tenpins"), is a like motion. The pass may be varied, when the arm in its forward movement is raised to the side.

**Overhand.**—(Figs. 7, 8, facing pages 38, 44.) For throwing the ball great distances the overhand pass is best. It gives the greatest driving power because it is done by a movement which every boy has practised since he first threw a stone. It is the combination of the peg of a catcher and first baseman in baseball and the "shot put" in field events. When thrown from directly above the shoulder it should carry accurately for the full length of the court, if such a pass is required. In practising this pass, in order to acquire accuracy the ball must be handled slowly at first, be-

**cause**, being large, it is not possible to grip it so firmly as a baseball, for example. A slight turn of the hand causes the ball to curve and nullifies the pass.

**Mechanics:** The ball should rest in the hand, fingers spread well apart. The hand is brought backward until it is just behind and above the right shoulder; body is turned toward the right. With a stride forward with the left foot the right shoulder turns to the front, the right elbow and shoulder are extended, and the full force of the turn and extension drives the ball.

**Hook or Overarm.**—(Fig. 9, facing page 48.) The overarm is generally made while the man is in the air. It is valuable for short or long passing when the player is in motion, and carries the advantage of being thrown with great force from a position as high as the player can jump. It also enables him to turn his opposite shoulder to a guard coming toward him.

**Mechanics:** The pass may be made as follows: The player with the ball has turned or pivoted away from his guard. He is not in a position to shoot, but wishes to make a pass to a team-mate behind him. He takes one bounce, and upon the recovery leaps high into the air, making a half-turn to the left; carries the ball up and out at right angles to his body; and whips it back over

his head to his team-mate. The mechanics of the arm, wrist, and finger motions can be practised from a stationary position under the following directions: The body is turned to the right; the ball in the right hand is carried far beyond the right shoulder, arm straight, fingers outspread. It is delivered by an upward swing of the arm and shoulder to an arch position over the head, from whence it is snapped by a wrist and finger motion to the player for whom the pass is intended. The fingers are a great help in giving the direction to the ball.

*The Bounce Pass.*—The bounce pass is used when an air-line pass may be easily guarded. The ball should be thrown so that it bounces at the feet of the guard trying to intercept it. When passed thus it is almost impossible to block without kicking it. It also carries the element of surprise to the opponents.

#### PASSING IN GENERAL

Basket ball is primarily a passing game. A team may make a dozen passes before trying one shot for basket. As a general rule the passing is progressive toward the goal. Most passes are made while players are in motion, but situations constantly arise on a large floor when the man with the ball is stationary, while his team-mates

manœuvre for positions nearer the goal. After making his pass the player must advance through his opponents' defense ready again to receive the ball should it be passed to him. The long, low passes are hardest to intercept, and a bounce pass is very disconcerting to the opposite side. A ball should never be thrown *at* a running player, but rather just far enough in front of him so that he and the ball reach the same place at the same time. Such passes must not be too swift, but rather carefully timed. A swift rifle-bullet pass may be made to a team-mate in a given position, but a lobbed shot just over the head of an opponent may sometimes accomplish better results. The man who drives a ball at a team-mate coming toward him is a menace to the team. Too many broken fingers result from this affected playing. There are times, especially in the play in which the guard comes down and receives the ball from his forward, that the pass is no more than a gentle toss in the air. The onrushing player can more easily catch it so. If it were driven at him, or even passed toward him, the chance for a fumble would be enhanced by the speed of the ball against the speed of the player.

The ability to run down the floor passing back and forth to a man by his side is of prime importance in basket ball. It should be practised con-



FIG. 3. CHEST PASS.—PAGE 13.



stantly with two men, then with three, and then the whole team. Ability to pass a ball from the position in which it is caught makes for smooth playing. There are two elements in the passing of a ball, the one of preparation, and the one of delivery. The preparatory movement is the longer, and if it can be eliminated the pass is materially faster. For instance, if the ball is caught above the head it may, if time permit, be brought down and passed by an underhand, overhand, or chest shot; but to bring it into a position where any of these passes can be made requires preparatory motion; while if the ball is snapped from the overhead position where it is caught, by means of the overhead or the overhand pass, the ball can be turned loose very quickly. A ball caught in front of the chest can be passed instantly, by either the chest or the sidearm pass. The fewer motions a basket-ball player makes the smoother and faster will be his play.

### CATCHING

Good passing counts nothing if the ability to receive the pass is lacking. Catching is just as important as passing, and the one is the complement of the other. The principles of catching are few and can be quickly taught, but only continual hard practice will produce results. First

a man must learn to catch while standing still, and then while in motion; and the latter case, of course, predominates in a game. The ability to catch a ball coming straight at him, a bounding ball, or one in which he must leap into the air and secure a ball coming from in back of him, is absolutely necessary to every one on the team: to the forwards and centre on offense, and to the centre and guards in their attempts to intercept passes on defense.

The mechanics are simple. To receive a ball coming above the waist (Fig. 10, facing page 52), a player should reach out in front, elbows slightly bent, with fingers extended and pointed upward and outward, palms front, with thumbs about five inches apart. The wrists, elbows, and shoulders should give a little in order to lessen the force of the impact of the ball.

A ball coming below the waist should be taken in the same manner (Fig. 11, facing page 54), but with the fingers pointed downward. A ball bouncing close must be carefully played for fear a broken finger may result. Perhaps it is best to turn the fingers slightly backward and gently sweep the hands forward when reaching down to trap a bounding ball. When running down the floor it is often necessary to leap into the air and make a catch of a ball over the shoulder. This

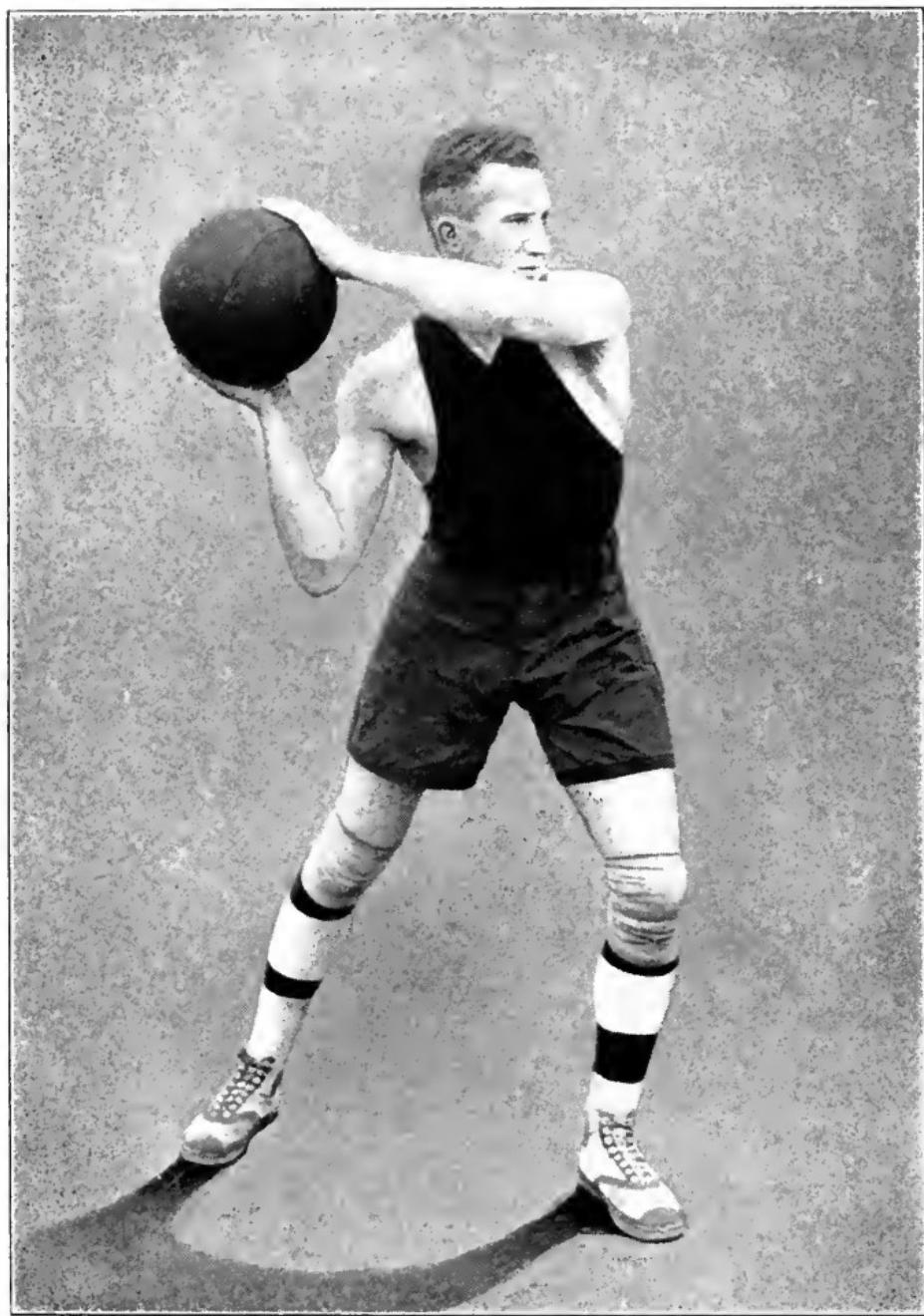


FIG. 4. SIDE-ARM PASS.—PAGE 14.



may be done without turning the body from the direction toward which the player is running by allowing the ball to strike the palms of the outstretched hands. Sometimes in this running position, if the ball is coming low, it is wise to turn completely around, make the catch backed up by the body, and then either pass again or, pivoting, turn in a new direction, dribble, and go on. But, after all, the only way to learn to catch is to catch and keep on catching.

### Dribbling

The dribble is a means of advancing the ball when the player has a clear field ahead of him. It is also used by a man when his team-mates are covered and it is necessary for him to get into an advantageous position to shoot. It is as spectacular as a home run in baseball, but is entirely individual, and tends, if constantly used, to break up team-work and to encourage grandstand playing.

It seems too bad that so excellent a means of teaching a man to handle, and get the feel of a ball, should be the principal thing that must be discouraged in the actual playing of the game. In its place, however, it has great value, and a strong coach should not hesitate to have his men practise the dribble at length.

*Mechanics:* The dribble is a succession of one-hand bounces, in which either one or alternate hands are used. The ball should be started from about the waist-line and never allowed to rise above it (Fig. 12, facing page 60).

In starting the dribble some players make the mistake of raising the ball too high for the initial motion (Fig. 13, facing page 66). This is wrong for several reasons. First, it takes too long a time; second, the ball is brought up to a point where it interferes with the line of vision; and, third, it is easy to block. The ball is pushed, not slapped. As it rises after the bound the hand comes up with it, and it is then pushed down again. The ball must never be allowed to bounce so high that it interferes with the line of vision, and it is played so that it is always in front of the dribbler. He, by bending toward the bounce, as it were, keeps the ball under his hand, and so more easily controls it. The dribbler should not run in such a way that his feet follow in line. Rather, his gait should be such that his feet are far enough apart, and his weight so balanced that he can shift either foot as it becomes necessary to dodge an opponent in the rush down the floor. The dodge is made in either of two ways. In the first the dodge to the left is made by stepping to that side with the left foot, or at least bearing

rather abruptly in that direction. If this is done the dribbling hand should be the left just as the dribbler passes the opponent, so as to keep the ball as far away from him as possible. At best this is hard. The better dodge would be if the intent is to go to the left, to swing the right foot over and beyond the left, and to make a quarter-turn to that side. This throws the right shoulder and hip toward the man guarding, and gives him comparatively little opportunity to make a play on the ball. The danger is here that the dribbler will be forced to turn more than one-quarter around in order to maintain his balance. In so doing he may lose the ball, or at least be forced to change his direction. This is the opportunity to pass to a team-mate, who should be following near. If the pass is made the dribbler reverses his turn, runs forward and is ready to receive the pass again, now much nearer the goal. In practising the dribble one should begin slowly, and gradually increase the rapidity of his bounces until he is able to go at top speed down the floor.

## CHAPTER III

### SHOOTING

As the ability to bat in baseball is the prime requisite of offensive play, without which no runs can be scored, no matter how well a ball-player may catch or throw, so in basket ball all the ability in the world in catching, passing, and dribbling will not score a point unless at least some of the team can shoot baskets successfully. Originally the idea was to have the forwards do most of the scoring, and the tradition still remains, though now we expect of our back-court players many a basket, and the boast of a good guard often is that he has scored more goals than his forward.

The art of shooting is distinctly a comparatively new bodily co-ordination, never practised before by American youth, and, although it is daily becoming familiar even to the boys of the elementary school, yet there are many great helps in teaching which will make easier this so vital part of the game.

There are two ways of shooting for the basket — one in which it is the idea of the player to drop



FIG. 5. START OF THE UNDERHAND PASS.—PAGE 15



the ball over the basket's rim, with no thought of the backboard or bank, and the other in which the bank is taken into consideration and is used as an aid, by deflecting the ball into the goal.

A safe rule to follow in this respect is to make as many shots free as is possible, because the basket is the ultimate aim, the bank only the means to an end. Always from in front of the basket, from the extreme side, or from any position more than fifteen feet away the shot should be free. From any point under or near the basket at either side the ball may advantageously be made to carrom off the bank. In the long shots with the thought of only the basket in mind, the player can shoot with a certain assurance that if he misses the basket and shoots beyond, the bank may help deflect the ball into the goal. All shots except close ones in which the bank is used should be made with a very high loop. The ball which enters the basket from overhead has a full circle in which to drop, whereas the long low shot will have but an ellipse, if indeed it even clears the rim. In both bank and free shooting the shots may be made with one or two hands. For beginners shooting may best be practised from a standing position, but when a fair degree of efficiency is reached, play conditions should be used and the goals thrown while the player is in motion.

It is not force that counts in basket-shooting, yet often a player running down the floor will make his shot so hard that striking the bank it will bound back into the court behind him, and thus his follow up will be lost. There are many shots which call for a deftness of touch and a nicety of judgment such as would be used in baseball when bunting the ball.

The matter of following up a shot is extremely important, but it depends somewhat upon the style of offensive play the particular team adopts. Some coaches have the man who makes the shot drop back and another man run in and follow up, while others have a man follow up his own shots even to the third or fourth opportunity. The writers recall one play in a college game in which a noted guard followed up his shot four times, and caged a basket on the fourth attempt. Whatever the style of play, the "follow up" is an excellent means of exercising judgment and practising the recovery of a loose ball. Many times by a spring into the air a missed shot may be tapped or batted into the goal before it has a chance to fall to the floor. But here again opinions vary, some coaches feeling that this is conducive to loose playing and therefore to be discouraged. In basket-shooting as in every department of play there may be differences of opinion, as to

methods and technic, but if the fundamental principles are studied closely and practised assiduously, the improved work of a player will repay many times the effort spent.

### SHOTS—TWO HANDS

*Underhand.*—(Fig. 14, facing page 72.) The natural way an inexperienced player shoots for the basket is by the underhand shot, the one in which the ball is simply tossed up from an underhand position. Because this is the natural method it has been studied and improved so that now it is very generally used for that most important part of scoring, viz., foul shooting. The shot is also used from various parts of the floor and may be made with great accuracy. It is not made as frequently from the floor, however, as some of the other shots, because it is difficult to execute while running, and is rather easily blocked.

*Mechanics:* The ball is grasped in the palms, fingers outspread on either side, the little fingers slightly underneath, the elbows somewhat bent. With eyes on the basket and the body inclined somewhat forward, the arms are lowered between bent knees. An easy toss which co-ordinates the trunk, arm, and leg movements completes the shot, and as the ball leaves the hands the body is extended and the weight forward. In the

preparatory movement, too far forward a position of the body should be avoided, and throughout, the eyes must be on the goal.

*Chest.*—(Fig. 15, facing page 132.) The complement to the underhand shot is the chest shot. This is a shot employing the mechanics of pushing rather than swinging. It has several advantages over the underhand style. First, because it is started nearer the line of vision and followed through closer to the basket, it is more accurate; second, because it is started higher and pushed upward, it is more difficult to guard. The common error in learning this shot is to hold the ball as a half-back runs with it in football, that is, at both poles, grasped only by the thumb and fingers. This has a tendency to throw the elbows out and make the motive power rather the snap of the wrists than the extension of the wrists, elbows, shoulders, etc. A more direct push can be given the ball if it is held between the palms chest high, fingers outspread, thumbs parallel and in back about five inches apart. The elbows are in close to the body, the body is crouched slightly and inclined forward, the feet may be together or one foot in front. The arms are extended, and the ball is shot without a twisting motion. The body becomes erect as the shot is delivered, and a step or spring forward may be made. The lower down



FIG. 6. FINISH OF THE UNDERHAND PASS.—PAGE 15.



the shot is started the more power can be put into the throw, and the ball is often shot fifty or sixty feet by this method. The ball travels to the basket describing a high loop, and is sometimes called the "loop shot," but as we have said before the principle of the high loop applies practically to all shots. Much practice is needed to perfect the chest shot, because the co-ordinations are difficult; yet because it is almost the basic shot of the game too much time cannot be spent upon it.

The last of the two-handed shots is made when the player receives the ball coming in toward the basket from the right, and too late to make a play on the near side. In order to avoid "progress" it may be necessary to take one bounce before the shot; when this is done, and the man is on the left of the goal with his back turned toward it he makes a quarter-turn to the right, looks up over his right shoulder, and with a long underhand motion sweeps the ball up and back so that it carroms off the backboard into the goal (Fig. 16, facing page 136). There is a variation of this shot which may be used when the player shooting is closely guarded, and cannot hold the ball out in front for the full arm sweep. The shot is then made from the "chest shot" position, by the player bringing the ball to the chest, mak-

ing a half-turn to the right as he springs into the air, and pushing the ball up and back to the backboard and the goal. In this shot the ball glances off the bank at a sharp angle. In the full underhand sweep it rolls on the bank and down into the basket. Both shots are made while running, but the chest push is accompanied by a spring and half-turn. This throws the back, shoulder, and hip into the guard following.

#### SHOTS—ONE HAND

There are three one-hand shots worthy of note—they all admit of variations. The most popular at the present time is what we may call the “put” shot. The situation in which it might occur is as follows: A player is coming down the right side of the court, either dribbling or receiving a pass. When within striking distance of the goal he attempts his shot. Because a guard is approaching from the left he has no time to pause. Consequently the shot must be got off quickly, and from his right side, where it cannot be intercepted. The ball is carried in the right hand to the shoulder, where it is lifted up and over his head to the left, describing a full circle on its way to the goal. The shot is made without “English” or spin, and should descend with as little force as possible upon the basket. To gain greater height

and further forestall the possibility of blocking, the player, as he shoots, may leap into the air. Some players acquire great accuracy and skill in making this shot.

The second one-hand shot is made by a player coming in from the right front to the near side of the basket (Fig. 17, facing page 140). He desires to get closer to the goal so that his shot will be more sure. There is no guard between him and the basket. He receives the ball, takes one bounce, leaps high into the air, and with a rotary motion of the hand from the right to the left, so as to impart a right-to-left spin to the ball, he rolls the ball off the bank into the goal.

There are two variations of this play: One in which his approach is the same but in which he leaps high enough so that the ball may be gently placed over the rim (Fig. 18, facing page 160); and another in which he approaches the basket either from in front or from the left front. In either of these cases the bounce and leap are the same, but the ball, instead of rolling off over the little finger, is rolled off the tips of the fingers as the palm is upraised. The slight over English twirl which this position permits often causes the ball, if it strikes the rim, to roll over into the goal. These also are lightly placed shots, and require much skill.

A shot frequently used when coming in from the left side is made as follows: The player has received a pass too close to shoot from the near side. He takes one bounce if necessary, under the basket, so that it brings him into position on the far side. With a leap and half-turn to the left he swings the ball up, simultaneously carrying the palm of the hand around to the left from a position in which it is toward the player to one in which it faces the backboard, and with the "spin" thus imparted to the ball he rolls it into the goal (Fig. 19, facing page 184). This shot may also be made by simply putting the ball without the spin against the backboard.

These are the basic shots in basket ball. Variations of them occur as it becomes necessary to shoot from unusual positions and when closely guarded. The game permits of few pauses or set shots, and even when a player has an opportunity to make one it frequently goes wide of the mark. Sometimes we see a loose forward receive a long pass down near the goal. With all the time he wishes he sets himself, shoots—and misses. The spectators cannot understand why a usually good forward has so failed. It is generally because his co-ordination has been changed from a shot made while in motion (the prevailing ones in the game) to one in which he is standing still—a

comparatively strange position. So does a fielder in baseball miss the easy roller. The crowd says, "Too easy," but the strange co-ordination is to blame. By constantly keeping his eyes on the basket a player in time comes to sense its location, and can turn in the air and locate the goal almost instinctively. But it is not instinct which guides so much as experience and long practice in this fascinating part of the game.

## CHAPTER IV

### HANDLING OF THE BODY

Thus far we have discussed the elements of basket ball from the standpoint of the handling of the ball in passing and catching, and shooting baskets. The third factor in developing individual ability is the study of the mechanics of body movements. Basket ball is so essentially a game of motion that the consideration and analysis of motion is vital to successful play. The ability to start quickly, to stop suddenly, to outjump an opponent, to dodge or pivot away from him, and then again to guard him, if he has the ball, and to take it away, are all more or less natural movements; but because so natural, are little understood, and consequently little heeded, especially in work with younger boys. Yet there are few players whose work cannot be improved by a study and an understanding of the way these things are done. To analyze is to simplify, and to simplify is to clarify and improve.

#### STARTING

The ability to start quickly depends upon a condition of readiness not only of body but of

mind. The player must be alert of mind, with a body well balanced. Balance is maintained by a position in which the feet are planted firmly upon the floor in a stride position—with enough pressure upon the balls of the feet or the toes to enable him to start forward, backward, or to the side with the least possible waste of time. The basket-ball player never is sure in what direction he will be called upon to run, so the crouching start of a sprinter is of no value. A player may expect to run forward, but a poor pass or the successful jump of an opposing centre may give the ball to the other side, and an immediate run backward or to the side-lines be demanded. It is generally wise, particularly on the "tap-off," for a forward to manœuvre to outwit his guard, but he must never be caught flat-footed, and so left at a disadvantage. One reason for fumbling is that a player is set in a certain position to receive a ball, and then for some reason or other, such as a poor pass, he is compelled to change that position in order to catch it, a condition which, on account of being poorly balanced, he is unable to meet. While not literally upon his toes, yet figuratively he should be, and from this balanced position is ready upon call to start quickly for any place on the floor.

### STOPPING

Ability to stop and turn quickly is just as important as ability to start quickly, and to a large extent this depends on the shoes. Many floors are slippery, and so basket-ball shoes are made with large spongy suction soles. They are made so for two purposes: First, because they are easier on the feet, and, secondly, because they afford greater clinging power than the thin rubber-soled sneak. When two feet are planted firmly at the same time the player is brought to a sudden stop. The jump which plants the feet should be made with a half-turn to the side so that the player lands in a stride position, with feet at right angles to the direction in which he was running. The pushing-back effect of the forward foot is then taken advantage of, and the balance maintained by the firm planting of the other. Compare the position assumed by the ice-skater when he desires to stop suddenly. The attempt to stop while facing forward is awkward, inasmuch as the player has a tendency to fall forward upon his face, necessitating further steps. As the front foot is slapped down on the half-turn jump there is some danger of a snapped ankle, so coaches must watch well the feet of their teams and strengthen weak ankles by a brace or tape.

### JUMPING

The principal elements in the jump are a combination of catching at the right time and springing high from the bent knees. The first is a matter of judgment and experience, the second of much practice. Some officials throw the ball up very quickly, others are deliberate and slow. Study of the referee will aid in outjumping an opponent. Being ready in the circle or any part of the floor where the jump is to be made will help much. A fraction of a second gained in preparation may give a decided advantage. If his opponent has any peculiarities of style or any weaknesses, a player should try to find them. If he is slow he can be caught napping on his preparation. Many players crouch too much in making the jump. It takes too long to get up, and they sacrifice judgment of time to height of spring. Others jump from a position in which the knees are not bent enough. This is the other extreme, and is the more common. Two positions are shown in Fig. 20, facing page 192.

### PIVOTING

The pivot is a means of evading a charging guard, making it possible for a player to turn in another direction without breaking the "foot-

position" rule.\* The turn, usually from 45 to 180 degrees, is made upon one foot; the other foot is placed after the turn is completed. The pivot to the left must be taken upon the right foot; the right knee is slightly bent; as the pivot or turn is made the left leg is raised sideward, so when the foot is placed it will give a wide base and consequent balance; the left foot is placed sideward or backward in the direction toward which the player passes or dribbles the ball. The pivot may be taken on the ball or heel of the foot, but the foot must remain in place.

The pivot is an excellent means of getting into a position to pass, dribble, or shoot. When covered in front a player uses the pivot to evade the guard, *i. e.*, place the guard behind him or off at the side (see Figs. 21 and 22, facing pages 198, 206). Here *A* is attempting to take the ball from *B*, who pivots to left, throwing his shoulder and hip toward *A*, and then starts off in a new direction. The turn may be made to either side, and may be to the extent of a quarter, a half, or a full turn. In any case the player has evaded his guard and, as in the illustration, has been able to dribble out of his way.

\* See *Basket Ball and Indoor Baseball for Women*, by Frost and Wardlaw.



FIG. 7. START OF THE OVERHAND PASS.—PAGE 15.



## DODGING

There are three kinds of dodges, depending upon three different situations. A dodge may be simply a side-step to the right or left of a charging guard. Again it may be the dodging, while dribbling, of a guard trying to block; and last it may be in making a pass, by feinting on one side, swinging the arm and body over, and passing on the other. The first occurs when a player who has received the ball finds the guard rushing upon him. He makes a long side-stride to the right or left, keeping one foot in position, bends his body low, and lets his guard run past him. This is generally practised while making a shot at the basket (see Fig. 23, facing page 218).

In using the second dodge the player is dribbling down the floor; an opponent attempts to block. The dribbler passes him to the left by planting his left foot down and crossing the right leg over and ahead of the other. This throws the shoulder and hip into the opponent and leaves him on one side. (If the dodge is made by stepping over on the left foot first, the dribbler gains no advantage, as his position, relative to the blocker, is approximately the same; see "The Dribble," page 21).

After eluding a guard by dodging in this way

it is very difficult to avoid a half-turn. At this point it may be well to shift the ball from the right to the left hand, or to pass it to some teammate—either a man trailing the dribbler or one of the players nearer the objective goal. Only long practice will enable the dribbler to dodge successfully.

The third type of dodge is made in connection with a feint to throw the ball in one direction and actually throwing it in another. The man making the pass may feint, by any of the two-handed passes, to throw to the right. He retains his grip on the ball, however, and makes his actual pass to the left. He then steps past his guard on either side, ready to receive the ball again. He may, instead of passing the ball, carry it forward on his second motion thereby starting a dribble. His step is across his opponent's foot, and at the same time he makes the first bounce of the dribble. Clever dodging depends upon the shifting of the weight upon the feet, and this again is a question of maintaining balance. The footwork of a good boxer will furnish an example.

*PART II*



## CHAPTER V

### POSITIONS

#### THE GUARD

As the name suggests, the man playing guard on the team protects and defends his team's goal or basket. His primary duty is to prevent the opposing team from scoring. He tries to keep the ball entirely out of his end of the court, and especially from any position near enough for the opponents to make a successful shot.

Although the guard's first duty is to defend his goal, it does not mean that all he has to do is to stay in his end of the floor and be ready to attack an opponent whenever his goal is menaced. That is sufficient, at times, to keep him busy; but however much engaged he may be at such times, he must be willing and ready to do more the instant his team gains possession of the ball and starts an offensive of its own. He must help get the ball out of his own territory and away from his own goal, and perhaps even help take it all the way down the floor. In the beginning when basket ball was first played, it was thought necessary to keep the guards down in their own end of

the floor, and the responsibility for scoring was entirely that of the centre and forwards. This is quite different from the modern conception of the part the guard should play in a game. To-day the guard is expected, in addition to being the main defense, to take an active part in all offensive operations of his team. On many teams one of the guards at least is expected to score several points during the game, and it is not uncommon to find the most dangerous man on a team, from the standpoint of scoring, to be a guard. We believe this to be the right idea of the responsibilities of a guard. He should, in addition to his other duties, take a prominent part in the passing, team-work, and scoring of his team. In doing this the guard is only carrying out the idea that "the best defense is a good offense." In this change whereby the guard has become a more prominent factor in scoring, the centre and forwards have, to a certain extent, relieved him of the entire responsibility of guarding or defense.

With this understanding regarding the guard his importance becomes obvious at once. It is very essential that the team has a couple of good, reliable men back under its own goal who are able to break down any offensive that the opposing team may start. Once a team gets under way and begins to roll up the score, it is very hard



FIG. 8. FINISH OF THE OVERHAND PASS.—PAGE 15.



to stop. Such a start or advantage may be stopped before it has acquired any great momentum, if the guards are keen and awake to every situation. The guard has a better opportunity to observe the game and to discover the methods of the opposing team than any other player. He often finds himself standing in the middle or at his end of the floor watching the forwards and centre playing the ball under their opponents' basket, and he should take advantage of this opportunity and assume the responsibility of advising and directing the other players. A guard should not feel that he should be continually on the run in order to be playing a good game. If the ball is being kept in the opponents' end of the floor, and the other men on his team are making an occasional basket, the guard should be content and satisfied to stay where he is. The object of keeping the opponents from shooting is being accomplished, and there is nothing to be gained by deserting his post.

In order to meet the qualifications of this position the guard should be keen, wide awake, aggressive, and have a spirit that will enable him to play for all he is worth right up through the last minute of the game. Things happen too fast in basket ball for the man who cannot think quickly, and it is too strenuous for any one who

gives up easily, or who is not willing to work as hard as he can all through the game. Basket ball is a man's game, and it requires all the qualities of the finest kind of a man to play it. The guard should have the spirit that carried the late John L. Sullivan to so many victories. It is said that before every battle this great fighter and most popular champion of the ring would look at his opponent as if to say, "What right have you even to get into the same ring with me?" and then proceed to make his opponent wish he had never seen either the champion or the ring. The methods, to be sure, should be different, but there is need for that same spirit of determination. The guard should be a large man, fast on his feet and a good shot. "A good big man is always better than a good little man." This is true in all branches of athletics. The smaller man is sometimes faster, but he is at a great handicap playing guard. It is an important factor in the success of the team to have a couple of big guards who, on account of their size, are able to intercept a large number of passes, and make follow-up shots and team-play of their opponents practically impossible.

In coaching a guard he should first be taught to guard his man and not to worry about anything else. He should learn to guard and do it well.

As he becomes more experienced he should learn to break away when his team secures the ball, and make his forward pursue him. The principle to follow is to first see that the work of guarding is well taken care of, and engage in the other phases of team-work only as the player has time, energy, and ability to do it after the purely defensive work is done. How much the guard will cover any particular opponent will depend, of course, on the type of defense used. It always worries a forward if he is closely guarded. By that we mean making it very difficult for him to receive a pass, and just as hard for him to make a pass or shot after he has once got his hands on the ball. When the forward has the ball it is not enough just to prevent his shooting at the basket. He should be guarded so closely and pressed so hard that he cannot pass the ball, and if he tries it, the pass will be bad. Again, it is just as annoying to the forward if he knows that as soon as his team loses the ball he must follow his guard closely. The guard should try to make his man feel that way, and even if he plans no offensive move he should feign one.

In plays from centre, if the signal is for the guard to receive the ball, he must leave his forward; otherwise he should try to prevent him from getting it. To do this it may be necessary

for the guard to take his eye momentarily off the ball. But he should break up any play to his forward and, if the latter be successful in getting the ball, make it impossible for him to pass it. A good position in which to watch the forward is a little inside and to the rear of him. The guard should try to prevent his man from getting inside and between him and the goal. In rushing toward an opponent the guard should have good control of his movements, and be ready to stop and go in any direction. This will make it impossible for the man with the ball to dodge and elude him. A common mistake of guards is to rush at their man too fast. All players should be ready for the many unexpected things that happen in basket ball. A man should not get set to receive a pass at a certain place and in a certain way until he sees the ball coming. If he does and the pass is bad, or he has to change his plans, he is apt to do the thing awkwardly and lose his balance. A player should have such control of himself that he can go or move in any direction at any time.

A problem that a guard often has to solve is how to guard two opponents as they approach his goal ready to try for a basket. No definite statement can be made regarding the matter, as his action varies according to the type of defense



FIG. 9. OVERARM OR "HOOK" PASS.—PAGE 16.



being used, how close the men are to the basket, and so on. If the guard is close to the man with the ball and he thinks he can reach him before he can make a pass, the guard should take a chance and rush his opponent. If the chances are that a pass will be made to the other man, the guard should try to prevent the first man from shooting and at the same time be ready to cover the second man. In this way the guard may be able to delay the shot until his team-mates come to his assistance. Under any circumstances the guard should remember that his first responsibility is to prevent his own man from scoring.

The two guards should learn to work together, so that while one of them is going at least part of the way down the floor the other will always be back as a last defense of his goal. The ideal combination is one where both are good shots and of value on the offense. Usually, however, one is better than the other, and comes down the floor more often than his team-mate. After coming in and taking a shot it is usually best for the guard to hurry back to his defensive position.

While the guard should play hard and be very aggressive, he should live strictly up to the rules. There are many little tricks, such as holding his opponent's wrist, stepping on his toes, taking hold

of some part of his clothing, which the guard may be able to do and not be seen by the officials, but all such procedures are to be condemned. If a man cannot be a gentleman and play not only according to the letter but also the spirit of the game, he should not play at all. This applies to the other players as well as to the guard.

### FORWARD

A good forward must be possessed of at least three qualities: ability to shoot, craftiness or basket-ball intelligence, and speed. Unless he is able to shoot, craft and speed are wasted. Without craft he can never outwit his guard, and without speed he is unable to take advantage of the opening his craftiness makes for him. The three qualities are necessarily interwoven, and the lack of any one nullifies the advantages of the others. To these we might add aggressiveness, except that such a quality is presupposed in every basket-ball player. It is a fighting game, and the forwards are in the front line of the attack.

In the chapter on "Shooting" we have discussed fully various kinds of shots, and the practice of these shots in the order given should develop shooting ability. It is well to know, however, a few fundamentals which pertain particularly to the forward's shooting. A forward must

be able to shoot from any position in which he finds himself. His are very rarely the set shots with plenty of time to aim that the guard has. He has no time to aim and shoot. The ball must be tossed from the point at which he receives it; sometimes a mere tap up to the goal as it comes toward him is all he can do. He is generally running at full speed when the ball is passed to him. Even the short delay of a bounce may be denied him. He may be surrounded by opponents, but he must come out of the mêlée with an upward sweep of his arms or a snap of his wrist which will send the ball up to the goal. There must be a sensing of the position of the basket, for often he will not have time even to look for it. Of course this ability to locate the basket comes only after long experience, but as a result of constant and hard practice it is a rich reward.

Basket-ball intelligence, particularly as applied to the "Forward," might be termed knowledge of the strategy of the game, and a craftiness or shiftness that makes it possible to take full advantage of that knowledge. A forward **should** never be still. At the "tap-off" he must be constantly manœuvring either to reach the ball before his guard or else to lose his opponent and gain a position down near the goal.

It is his business to get free whenever the ball

comes into possession of his team. He must be ever on the alert to dash into the unoccupied section of the floor ready to receive the pass made to him, or to the spot where he is expected to be. If the ball passes to the other side, then the situation is reversed. The forward falls back on defense and according to the system used plays temporarily a guarding game. If it is a "man-to-man" defense, he must see that his guard does not score, or even succeed in taking a pass. If it is a "five-man" defense, he picks the man who comes through on his side. With two guards back he may even let his own man go through if that man is the first or second to do so, but the third man in on his side he must cover. Now covering does not mean simply preventing the other man from getting the ball, as is sometimes done when a man faces another, leaps into the air, and raising his arms is struck in the back with the ball; it means intercepting the ball itself; making that one stride in the direction of the ball just a fraction of a second ahead of the other man. That fraction of a second is what wins in basket ball when all else is equal.

The position of the forward at the tap-off depends upon the signal given, and the ability of his centre to get the jump. For the various positions he may assume, see Diagrams 1 to 20, pages



FIG. 10. POSITION IN CATCHING BALL ABOVE WAIST.—PAGE 20.



75 to 94, inclusive. Often a forward finds a guard opponent who takes the ball from the tap-off when the opposing centre can place it. This is a very hard play to break, as a forward is seldom drilled to block it. If the forward plays outside of his guard, the guard is closer to the ball, and has the better chance of getting it. If he plays up between his guard and the centre, the guard is between him and the goal; but this is the better play because possession of the ball is the first objective in basket ball, and although he himself may be blocked in his dash to the goal, yet the play starts from the point where the tap-off is caught, and the ball may be passed to any teammate who may be uncovered.

The name forward still holds true. He is first on attack, first to take advantage of open spaces near the goal, and first to follow up his shot. Accurate shooting, craftiness, and speed sum up the absolute requirements of a good forward.

### CENTRE

The centre is to basket ball what the pitcher is to baseball—the pivot-man on the team. If possible he should be tall, so that he may place the “tap-off” to his own men, though in games between fairly equal teams the centre tap-off does not count so much as is commonly believed,

because the opposing players stand close and have a fair chance of intercepting the ball. Nevertheless, the tall man who is able to play the floor is a better mark for guidance to his team than a shorter man. His tall figure is a guide, and the psychological influence of a physically prominent leader and pivot-man is an aid to clean passing among any group of players.

The advantage of height is great and counts for much in the rush of a close contest; but the centre must have other virtues in order to play his position well. He should be a good shot, fast, and rangy on his feet, and possessed of an endurance that will carry him at top speed through every minute of a game. There are breathing spaces for the guards, waiting moments for the forwards, but the centre who is both a forward and a guard has no rest while the ball is in play.

Generally his range is up and down the middle of the floor, although crossing to one side or the other on the tap-off, as the forward on that side runs from his position, makes it necessary for him to play any corner of the triangle which the offensive players should always maintain in front of the goal. To him often the first play may be made when the tap-off is caught. He is the most likely player to be temporarily uncovered. As

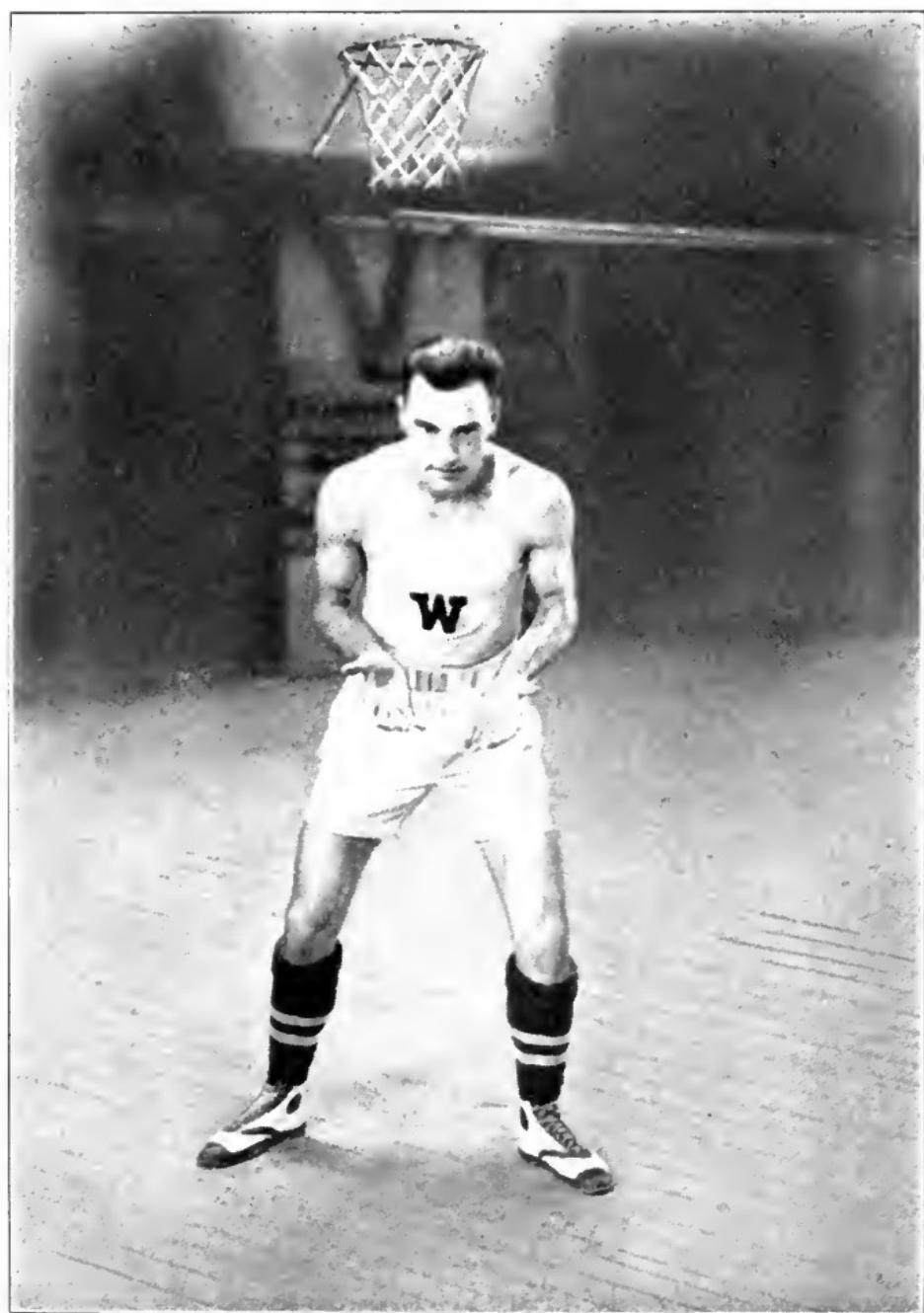


FIG. 11. POSITION IN CATCHING BALL BELOW WAIST.—PAGE 20



he jumps he runs around his opponent, and getting in back of him is frequently the first man in toward the goal. He by his height can often, without catching it, tip the ball up into the basket, and after a foul has been shot and missed, he can deflect the rebound into the goal.

When in the scrimmage around the basket for which he is shooting, the ball passes to the other side, he should lead his players back to the defense in the middle of the floor, and as centre man of that defense make himself responsible for the guarding of any man after the first two who come in on either side of him. Many times he can intercept a pass while in that position which would go over the head of a smaller forward. If the defense is broken and the scrimmage occurs under his own goal, by his height he may retrieve the ball on the rebound from the backboard before his smaller opponents can reach it, and lead his players in an offense down the floor.

Training for jumping may be accomplished by trying to touch some object raised a little higher each day, and certainly a centre should have ability to spring; but catching the time of the jump is often more important than merely jumping high. In the article on "Jumping" we have discussed this, and there is no further need to speak of it here; but this jumping ability coupled

with accuracy in shooting, endurance, speed, and good basket-ball sense is the necessary equipment of a capable centre.

## CHAPTER VI

### OFFENSE

The subject of offense in basket ball is a broad one, so broad, in fact, that it comprises in itself almost the whole game, and practically every part of the Chapters II, III, and IV contributes to it. Offense consists in handling, passing, and shooting the ball, in executing the various body movements such as jumping, starting, pivoting, and dodging, and in those formations which are used to advance the ball into the opponent's territory. The consideration of these various formations is the purpose of this chapter.

Floor formations may be formed from preliminary situations: Jump ball in the centre of the floor, Diagrams 1 to 20; ball out of bounds, under opponent's basket, Diagrams 21 to 27; at side-lines, 28 to 30; and under own basket, 31 to 36; plays from free throw, Diagrams 37 to 41; plays from "held ball," Diagrams 42 to 45. Also general offensive floor plays, Diagrams 46 to 50, dealing with offense under varying situations to which the tandem or twin-guard defense is opposed. Diagrams 51 to 56 deal with breaking the five-man defense.

The diagrams shown we offer as suggestive material. No wise coach will use more than four or five set plays from centre; and unless the jump is assured, he may not use that many. The other plays are used in proportion. Diagrammatic work is all very well for drill purposes, and it accomplishes much the same purpose that it does in football, but in basket ball there is rarely a set formation from which to start an offensive. There is only one time when the players of both teams are likely to be in a definitely assigned position, and that is when the ball is tossed up at centre. Even then the forwards and guards may be running around manœuvring for position. Particularly in general floor play will the formations of the team under game conditions vary widely from any set formation which might be illustrated; but principles can be taught by diagrams, and so we give a wide range of material from which choice of plays may be made to fit conditions, ability of players, and so on.

As defense varies to meet certain forms of offense, so offense must sometimes assume different attack formations against certain forms of defense. Against the tandem defense two men may be sent down to the opponents' territory, with some chance of getting through and scoring by passing the ball from man to man. The opposing

guard will not know whom to cover. Two men cannot be successfully sent against the twin guard; that situation requires three. And again three men cannot break the five-man defense. It takes four or even five to get by that formation. The size of the floor, the presence of boundary-walls, the height of the ceiling, the ability of the opposing centre, all vary the attackers' style of play. High loop shots from the middle of the floor may win a close game on a court with a high ceiling. The low ceiling requires a final pass to a man directly under the basket.

The prime requisite of successful offense consists in working the ball down the floor. This is accomplished by three styles of passes—the short pass, the long pass, or a combination of both. The most important point to be impressed upon players is that the moment a pass has been made the man must advance down the floor ready to receive the ball again nearer the goal. Too often among untrained teams a player comes into possession of the ball, and because his team-mates do not start down the floor he does not know to whom to pass it. If upon recovery of the ball every player immediately dashes down the floor, an offensive is launched. Some one in an advantageous position should call for the pass. The fact that each member of the team is in rapid

progress toward the goal in itself indicates that they have a good offensive spirit. It must not be supposed that the ball is always passed forward. Many times situations arise in which it is wise to pass to a man behind rather than to a player in front who may be guarded. The nearer the goal the more likely the players are to be covered. And for this reason the floor guard or some following player may be in a better position to receive a pass and shoot than the man who wins a position under the goal. This is an excellent style of offense to use when dribbling—that is, to have a man following immediately behind ready to receive the ball if the dribbler finds himself blocked. In this case the man who dribbled passes back to the trailer and either drops back as trailer in his turn or runs forward ready to receive the pass over the head of or past the guard who intercepted him.

Of the two passes used in offensive play, the short and the long, the former used in connection with the bounce is coming more and more into favor. A few teams still employ a forward under the goal. This man waits in that position to receive a long pass from the other end of the floor. He is rather easily guarded. If this type of play is adopted, only the head-work and agility of that forward can make it valuable. His play may con-



FIG. 12. THE DRIBBLE.—PAGE 22.  
Correct Position for Body and Ball.



sist in crossing to one side or the other in an effort to evade his guard or in suddenly rushing back part way up the floor to receive the pass which he plays to a second man rushing down the floor. Long passes are dangerous, and are apt to be intercepted when tried against the twin-guard type of defense. Many teams when securing possession of the ball under their own basket start their offensive toward the other end of the floor by making the first pass to a man at the centre and side of the floor. From there short passes are used.

The short-pass game is in more common use now that the five-man defense has become so popular. It is a system in which men go down the floor, passing to each other as they go. If one is tackled, he passes across, forward, or backward to a team-mate; then continues on, ready to receive the pass again. If three or four men start an offensive of this kind it is extremely hard to stop. The bounce pass is here very valuable, being deadly accurate at close range, and difficult to intercept if played beside the feet of an opponent. As mentioned before, when the forward line is guarded, the ball may be passed back to a floor guard or the last man in. A zigzag attack with short passes works to admirable advantage on a large floor. On the small floor the conges-

tion caused at the middle line of the court by the forwards and guard crossing nullifies the advantage gained by this style of play. The crisscross is a valuable attack for the tap-off from centre.

For floor play in general the system which draws players away from a certain section of the floor is a good one. If this vacated section is on the left, the left forward may be made responsible for dashing into it and receiving a pass made to the empty space; if on the right, the right forward may take the ball, or the forwards may cross the floor and go into each other's territory. The twin-guard defense is apt to cause trouble to this manœuvre, because the guards are generally stationed near the sections from which the shots may be easily made, and they are more or less at a fixed post. In scrimmaging, however, they may be enticed out of position by an opposing player, and upon their leaving the territory, the forward rushes in, receives the pass, and often has a free shot for goal.

It is generally true that the ball should not be advanced all the way down the floor in a straight line. The play is too easily broken, and one guard can cover too many men. The "crisscross" play, passing the ball from side to side, is better. This holds particularly when near the opponents' basket. Neither is it good basket ball for the offen-

sive play to carry the ball to a position on the floor from which it is difficult to shoot. It is easier to make a pass to a man in a corner to the side of the basket, but it avails the team nothing, as it is only the exceptional man who can then score. The aim should be to take the ball near the basket.

In the majority of cases the plays in a game work out differently from the way they have been practised. There is usually some unexpected opposition, which makes the end or outcome of the play different from what was planned. This difficulty can be partly overcome by working out a choice of plays so that if the one in mind does not work, the player will not be absolutely lost as to what to do, but will have a second, or even perhaps a third, choice. In football when the signal is given for a forward pass to a certain man, the player making the pass tries to throw the ball to that player, but if the latter is covered, the passer may make the play to one of the two or three other men who have tried to get free. This policy is sound, and can be used in basket ball. It does not mean that the coach should try to plan for every play and move that a man makes in a game. If this idea is carried too far the players become mere automatons and lose their initiative. The men should be resourceful,

so that when any planned play fails they will be able to meet the situation and work out something for themselves.

Though speed is a vital essential of successful playing, it is not always necessary or wise to play fast on the offensive. Speed will win when that speed is used to organize the attack before the defense is formed, but when a five-man defense is between the attacking side and the goal, strategy and cunning may well be employed. The ball held temptingly for a bait to draw a defensive player out of his position, the quick dash of an attacker into the vacated place, a sharp pass, and the five-man defense is broken. Sometimes when all else fails "time out" may be called, and a new strategy planned. Less and less brute force is counting and more and more brain-work and clever passing produce the winning team.

There are two or three ways to break the five-man defense. One is to try a long shot from the middle of the floor, rush in on the follow up, recover the ball from the backboard, and shoot again. A feint to shoot may be made, the opponent's attention momentarily averted, and a rush started through the line, using short passes or the dribble. One or two of the players may run up the floor, take a position inside the defense, and come out to meet a pass. The player re-

ceiving the ball may then turn and shoot or pass again to another team-mate coming in. If the defense has had time to form before the offense could get started, it is best for the attacking side to take its time in organizing its attack, but when once under way the attack should be fast and hard. If a long shot is to be tried from the middle of the floor it should be taken by the best long-distance shooter. If either of the other methods of attack mentioned above is to be used, at least four, and perhaps all, the men on the offense should come up close to the defense and from there try to break through. In order to use the fifth man, the guard who will stay back, the offense may be started by him, and after making the first pass he may drop back to his assigned position. Diagrams 51 to 56 illustrate these plays. The best way to beat the defense here shown is to organize the offense before the defense is formed.

On plays from centre the diagrams will give wide scope for team-play on any type of floor, and they may be reversed at will. They are given with one guard back, but can be varied so that the twin-guard defense will be used. The salient point to remember in these formations is that the ball must be secured. Some one must be in close to the centre to take the ball before it

has gone to the opponents. Then with two or three passes it should be carried close to the goal. Where the opponents clearly have the jump, all of the weaker side may be placed in the five-man defense position, trusting to intercept a pass rather than to get the tap-off. This system should be rather carefully tried out, though, before being used in important games. It is generally possible for quick men to secure the opponents' tap.

There is an old play which still works against teams unknown to each other, but which in league games is obsolete. We refer to the one in which the forward and guards change places. At the "tap-off" the guards become forwards and the forwards become guards. Its advantage against an inexperienced team lies in the fact that the opposing players do not know for a short time whom to cover, and a situation exists where the guards of the team upon whom the trick is being played follow the guards of the other team, who, in turn, are following the opposing forwards. For a few moments the forwards of the team using the formation find themselves free. Like the old hidden-ball trick in baseball, though, this play is going out of fashion.

When the ball is out of bounds the team in possession of it has a greater opportunity to work a set and fixed play than at any other time, as



FIG. 13. THE DRIBBLE.—PAGE 22.  
Faulty Position for Hand and Ball.



the man with the ball may pass to any place or in any direction he pleases. Although any man on the team may take the ball when it is out of bounds, there should be a definite play used in putting it back into the court again. It is not necessary to have a play for every few feet all around the court, but for the general divisions of the floor such as the ends, under either basket, and along the side-lines, near each basket. (See Diagrams 21 to 36.)

Only a few out-of-bounds plays should be used, but they should be well learned and practised, so they may be executed quickly. It often gives the offense a big advantage to get the ball into play before the defense has had time to form and get ready for it. If the game has been fast and the men are tired, the temptation is to slow up for the moment and take their time in recovering the ball. However, the players should be coached not to think of the game as having stopped when the ball goes out of bounds, but rather think of it as a time when, if they hurry, they may get the jump on their opponents. Many times the players know whose ball it is without having to be told by the referee, and they should lose no time in getting it and passing it into the court. Sometimes a delay can be feigned and an advantage gained by suddenly putting the ball into

play when the opponents are off their guard or are disputing with the referee. The greatest opposition to getting the ball in from out of bounds comes when it is near the opponents' goal. Little or no opposition is met under the team's own goal, especially if a five-man defense is used. Many teams do not guard the man who is passing the ball in, and use his opponent for some other purpose. The man out of bounds is often a good man to get the second pass, as he is apt to be for the moment uncovered.

After a foul has been called on the opposing side and the team lines up for a free throw, there are three objectives to be kept in mind. The first is to make the basket from the free throw if possible, something that depends entirely upon the ability of the foul shooter. There is nothing whatever that the team can do to help him. If the throw is missed the object is then to try to get immediate possession of the ball and try for a goal from field. The third possibility, if not successful in either of the first two and the opponents gain possession of the ball, is to prevent them by close guarding from passing it out of their territory.

In plays from held ball the position of the players depends upon what part of the floor the ball is thrown up. (See Diagrams 42 to 45.) If it is

near a team's own basket the play is defensive in character; two or three of the men should come into position behind their man who is jumping, between him and their own goal, and one man in front in order to cover any opponent who might receive the ball in that position. When near the centre of the floor, but in the defending team's territory, the remaining four men should line up behind the man jumping, between him and their own goal, in a position similar to a five-man defense. This protects the goal and at the same time permits of a quick change to the offense. If near the centre of the floor but in the opponents' half of the court one man plays in front and two men behind, each a little to the side of their man jumping. One guard is back. The ball is batted to one of the men who is behind and to the side, or to the man in front. The same formation may be used when the ball is held near the opponents' basket.

The most successful type of offensive play is that which is hard and fast. In most cases it is started quickly, so that before any defensive formation can be assumed the team with the ball has advanced into its opponents' territory and is menacing the goal. The idea of the attacking team should be to overrun the opponents and to make them do all the guarding. This is especially

true if the team is behind and it is near the end of the game. There is little difference whether the game is lost by two points or a dozen. Therefore, a team should be willing to take a chance and do everything possible to push the offense, as there is everything to gain and nothing to lose. A team cannot be successful if the men are continually worrying about their opponents' scoring. The idea is to let the opponents do the worrying. In baseball the man that goes to bat thinking about the wicked curve the opposing pitcher is going to throw him will, in all probability, never reach first base, and the basket-ball player that allows himself to think the same way will not have any greater success.

While the offense should usually be fast, it should be absolutely under control. There is always more or less opposition encountered every time the ball is advanced down the floor, and unless the passes are accurate and the plays sure the objective will never be reached. The wild, hurried way that we often see teams start down the court would not result in a basket if there were not a single opponent on the floor. The proof of this can easily be found in watching five inexperienced players advancing the ball toward their goal in practice. They make a bad pass, bump into each other, or something happens resulting

in a fumbled ball. Control of the offense is very important. The more experience a man has in basket ball the less he runs about the floor. He learns to move warily and speedily and to be at the right place at the right time. Many men spoil their playing by running wildly about, bumping into the other players, and giving the impression that they are the whole team. This type of man may win the applause of the gallery, but he would be a much better player if he used his head more and his feet less.

Strategy and the element of surprise should be used as much as possible in offensive work. With the modern systems of guarding, it is becoming more and more difficult to catch the opposing team off its guard, but there are still many possibilities. If a team is quick and the players wide awake and willing to take a chance, a goal can often be scored before the other team realizes what is going on.

Every man on the team should feel the responsibility of contributing toward scoring the winning basket, either by a pass or a shot. It is the spirit of fight and determination that decides many a close contest, and a team made up of that type of players will always be a hard one to beat.

## SIGNALS

A signal in basket ball is a means of communicating the intent of one player to his fellow players. Because the intent of a player so seldom materializes in the definite action he contemplates, however, signals in basket ball are comparatively unimportant. They are used chiefly in starting plays from centre, in which case their success depends on the fact that one centre is so superior to his adversary in the jump that he can tap the ball in whatever direction he wishes. In college and high school games this condition exists but seldom. Generally the men are so nearly equal that neither is ever certain where he will tap the ball. The question might arise here: "Well, if the centre has 'the jump' so seldom, why bother with diagrammatic plays at all?" The answer is twofold. If the thing works even a few times in a game, it is worth while. A set play on signal which works three times might tally six points, and one of those six might win the game. Then, again, diagrammatic plays when practised faithfully become second nature to the players, and some planned play may always be started no matter which of the players on a side has the ball. Of course if one centre is markedly superior to another, signals and regular formations play a prominent part in running up a big score.



FIG. 14. FOUL SHOOTING.—PAGE 27.  
Underhand Toss.



Signals are mainly used in plays from centre; but they may be used from a "jump ball" between players in any section of the floor, in formations following a free throw, from plays out of bounds, and in forming an offensive at any time. It is not so much the use of given signals that puts through the play, though, as it is the knowledge of the game and of each other that the players have. After the members of a team have played together for some time they know, approximately, what each will do under ordinary conditions, and they depend upon that and calling to each other rather than upon signals for their initiative in starting plays.

Signals are divided into two classes: given signals and called signals. The given signals may be any sign made with the different parts of the body. A hand brushed over the head may mean that the centre will tap the ball to the right forward; rubbed on the trousers may send the ball to the guard; a crooked elbow, a tapping of the foot, a nod of the head, the way a man steps into the circle, may all indicate some proposed play. The ingenuity of the coach or the players themselves will invent many which should be intelligible to fellow players but meaningless to the opposing team.

The called signal is used in the form of num-

bers or letters called by the captain or the centre. It is seldom practicable owing to the fact that in the excitement of a game the galleries are in an uproar, and it is difficult for the players on the floor to hear a spoken signal under these conditions.

The whole subject of signals is greatly overestimated by young coaches. If the men know basket ball, are used to each other, and keep their eyes open it is seldom necessary to consider signals at all. On jump ball when one man clearly has the advantage, or on out-of-bounds plays, signals may be used, but as a rule the more experienced a team becomes the less attention the men need give to them.

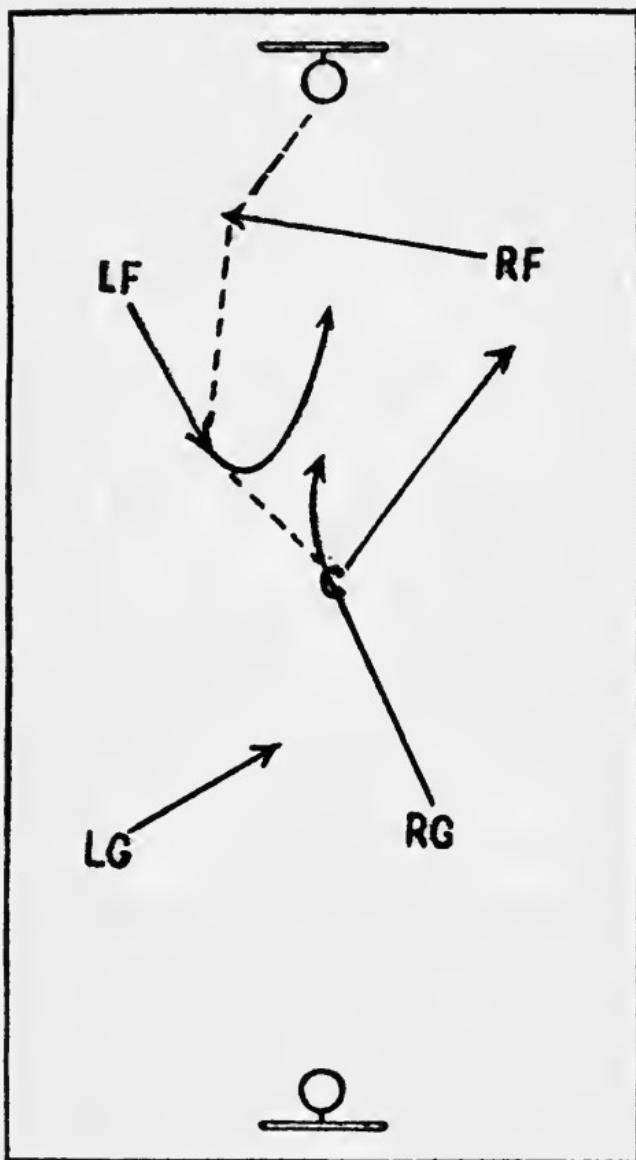


DIAGRAM 1

*LF* receives ball and passes to *RF*. *RF*, if unable to shoot, passes ball either to *C* or *LF* or to *RG*, who has trailed down centre of floor.

NOTE.—*In the following diagrams:*

— indicates course of ball.

→ " course of player.

~~~~~ " dribble.

Opponents' basket " basket for which team is shooting.

Own basket " basket team is defending.

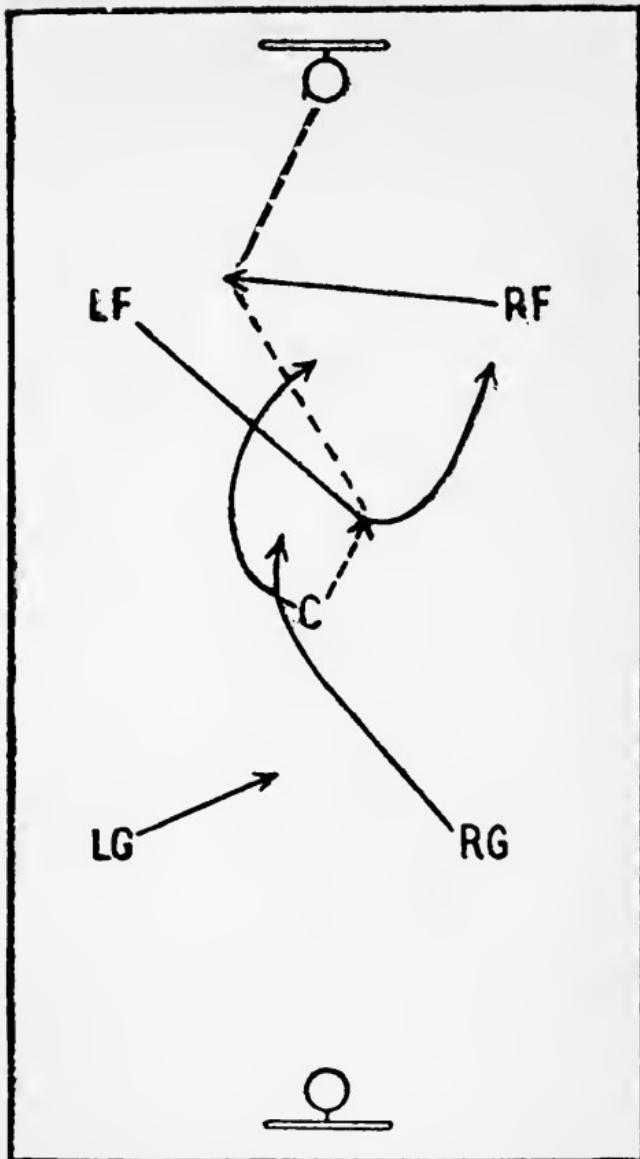


DIAGRAM 2

*LF crosses over to opposite side to receive ball, makes pass to RF or centre, and continues to original position of RF.*

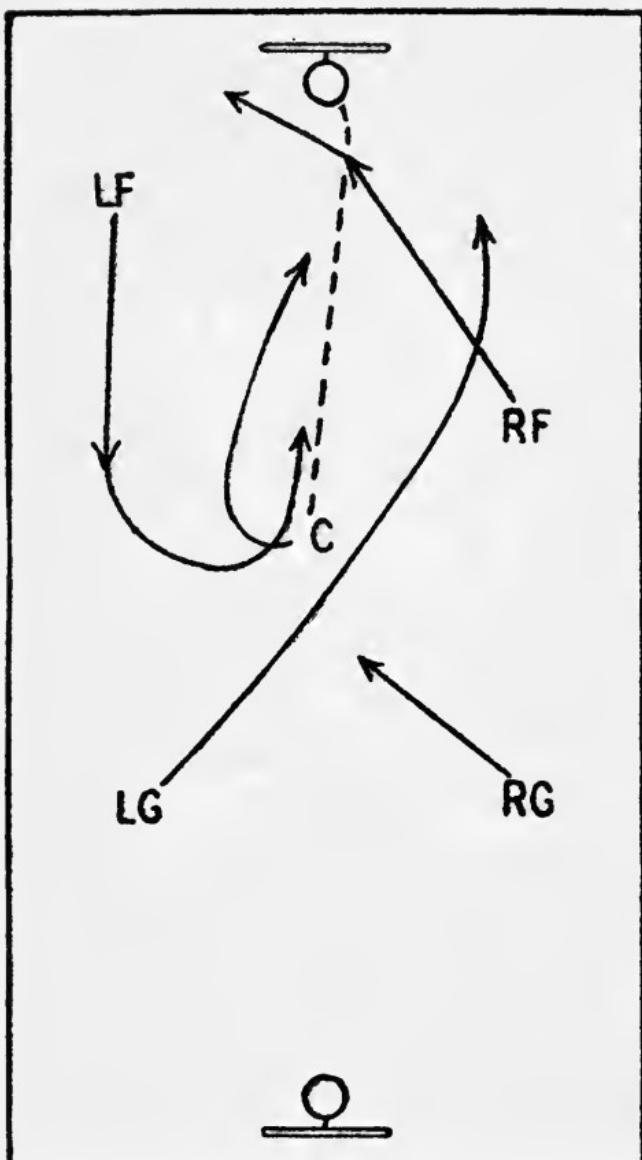


DIAGRAM 3

*C* taps ball back to basket. *LF* runs to centre of floor to pull guard away. *RF* outmaneuvers guard, runs toward basket, secures ball, and shoots. *LG* goes down at side of floor. *LF* turns and comes in as fourth man. This play is of value only when *C* completely controls ball.

## BASKET BALL

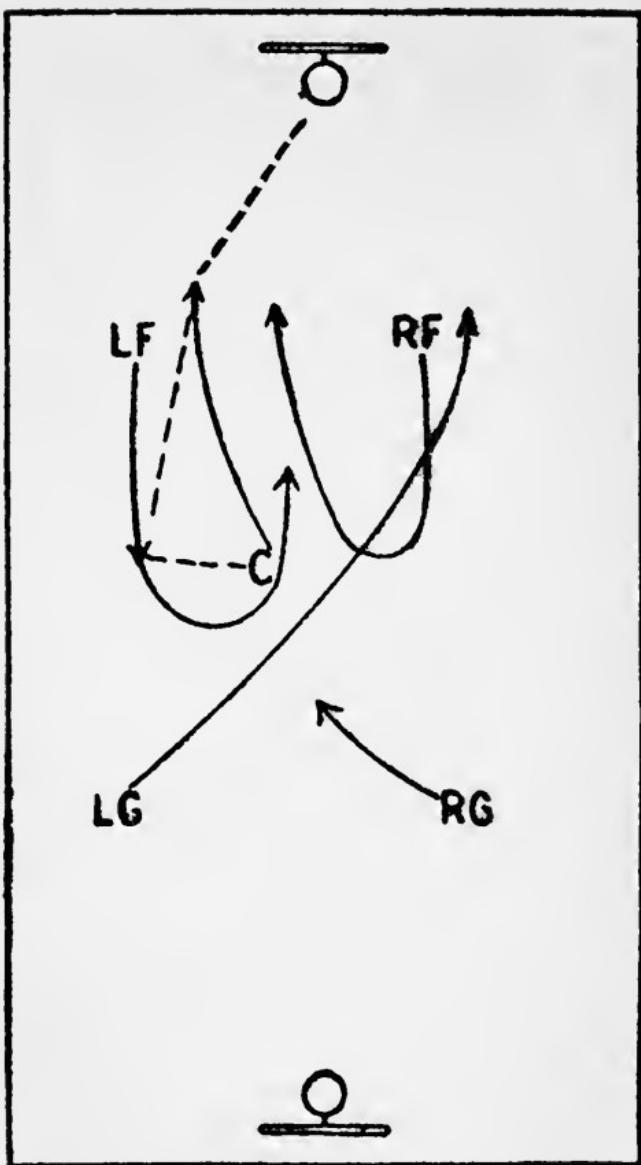


DIAGRAM 4

*LF secures ball and makes pass to C at left of basket. RF comes up and circles back. LG crosses to right side of floor. LF trails in as fourth man.*

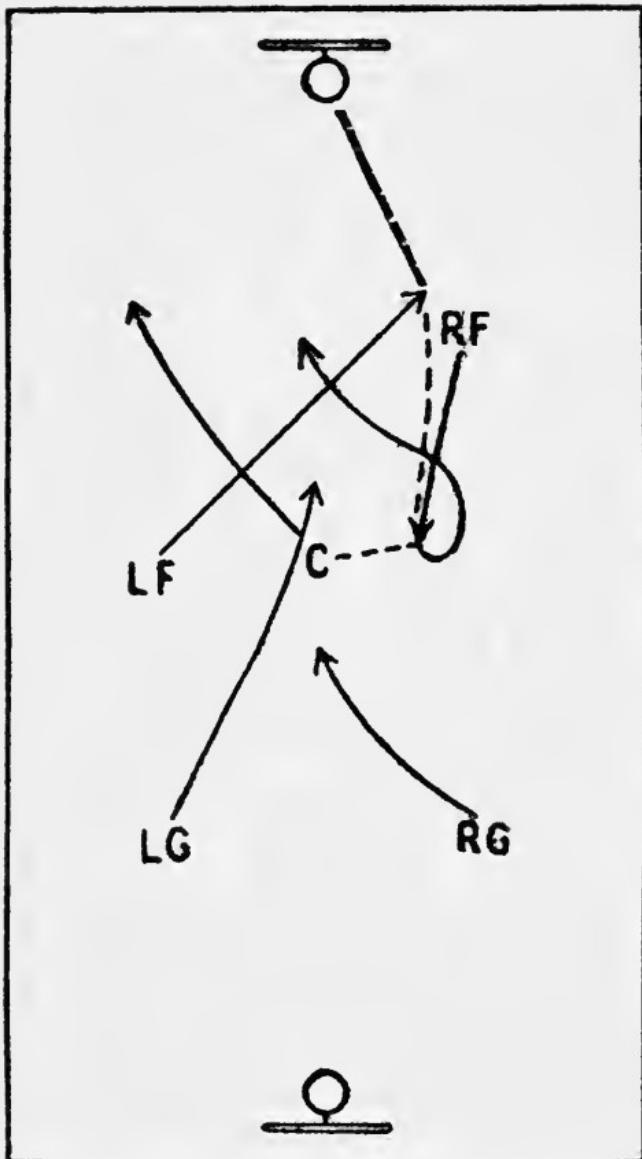


DIAGRAM 5

*RF gets ball, passes to LF, who has crossed to opposite side of floor. C goes over to left. RF turns when making pass and takes centre of floor.*

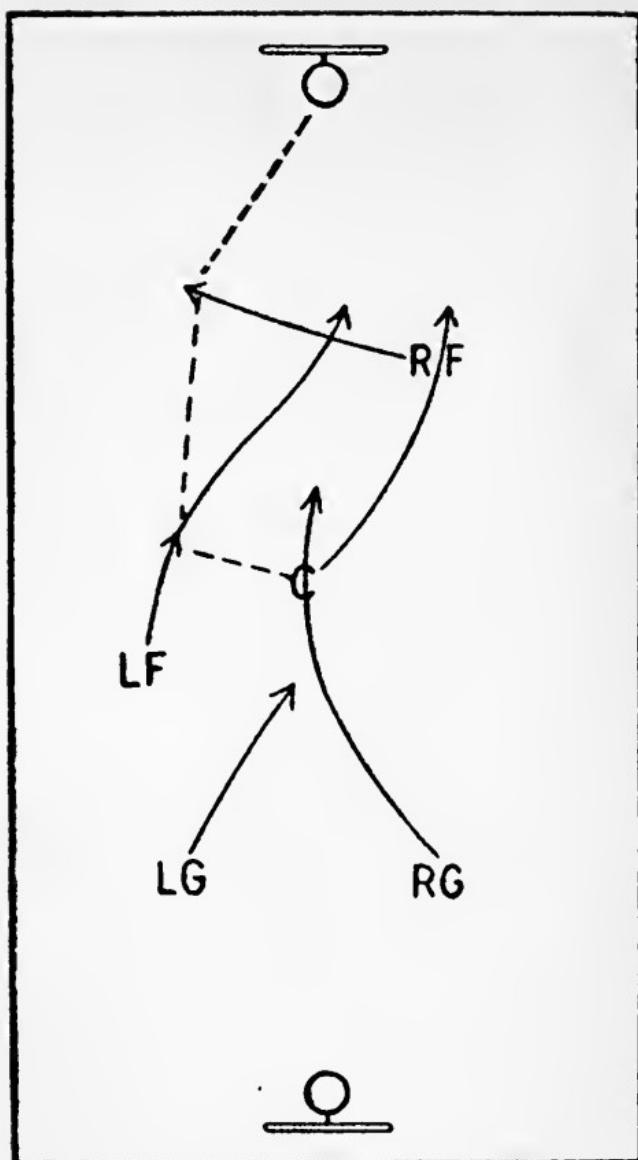


DIAGRAM 6

*LF gets ball and passes to RF, who has crossed over to left side of floor. RF may shoot or pass back to LF or C.*

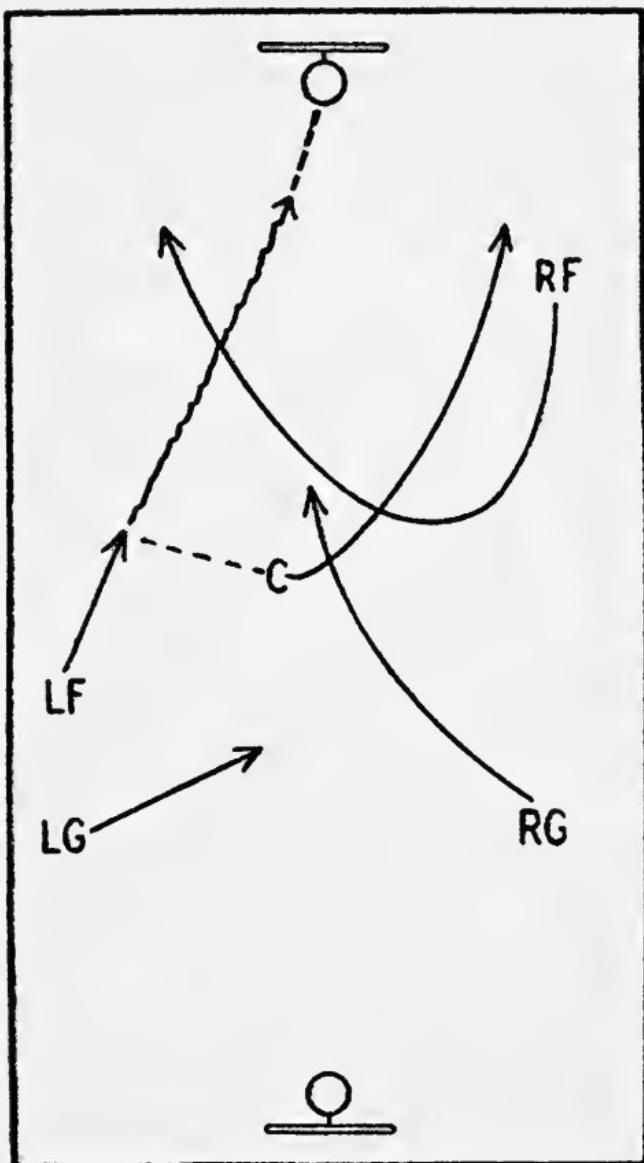


DIAGRAM 7

*LF gets ball, dribbles to basket, and shoots. If he is blocked he may pass either to *C* on right, *RF*, who has crossed over to left, or *RG*. *RF* comes up the floor on this play and may receive the initial pass from *C*.*

## BASKET BALL

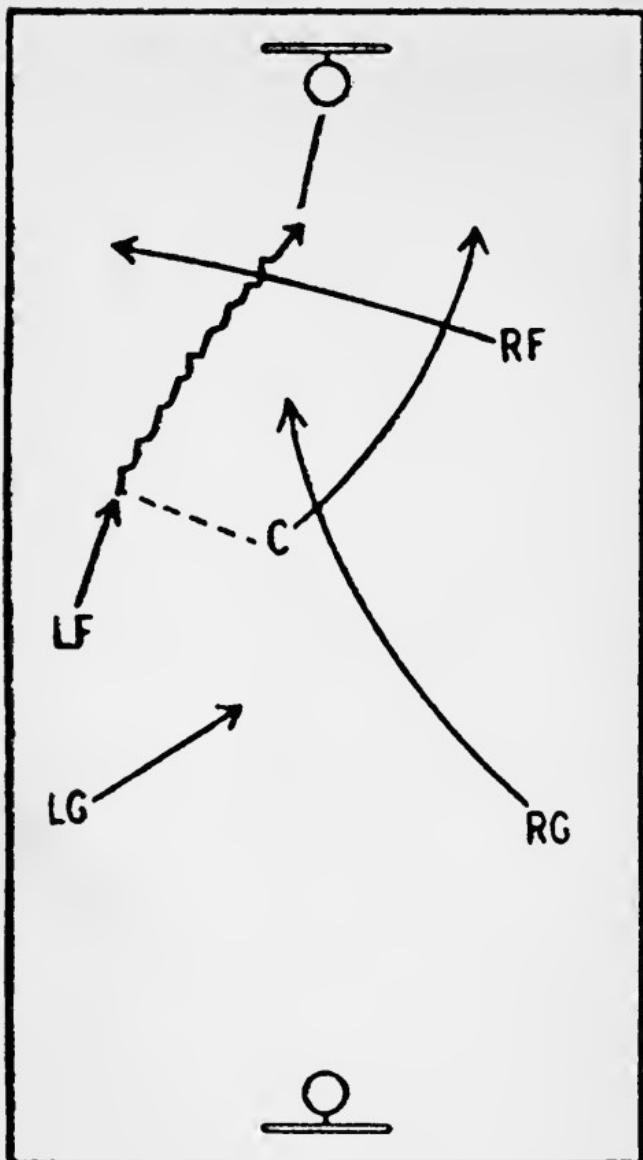


DIAGRAM 8

*LF gets ball and dribbles in and shoots. If he is blocked he may pass either to RF on left, to C on right, or RG. RF crosses over on this play instead of coming up.*

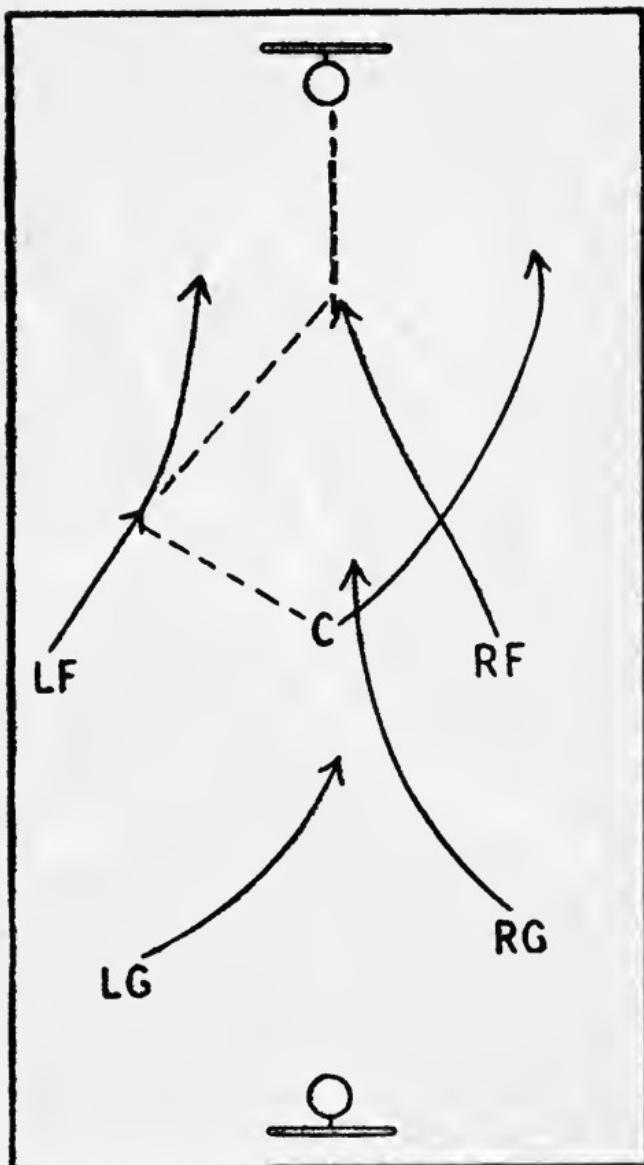


DIAGRAM 9

*LF receives ball, passes to RF, who comes down centre. He may dribble and shoot if RF is covered.*

## BASKET BALL

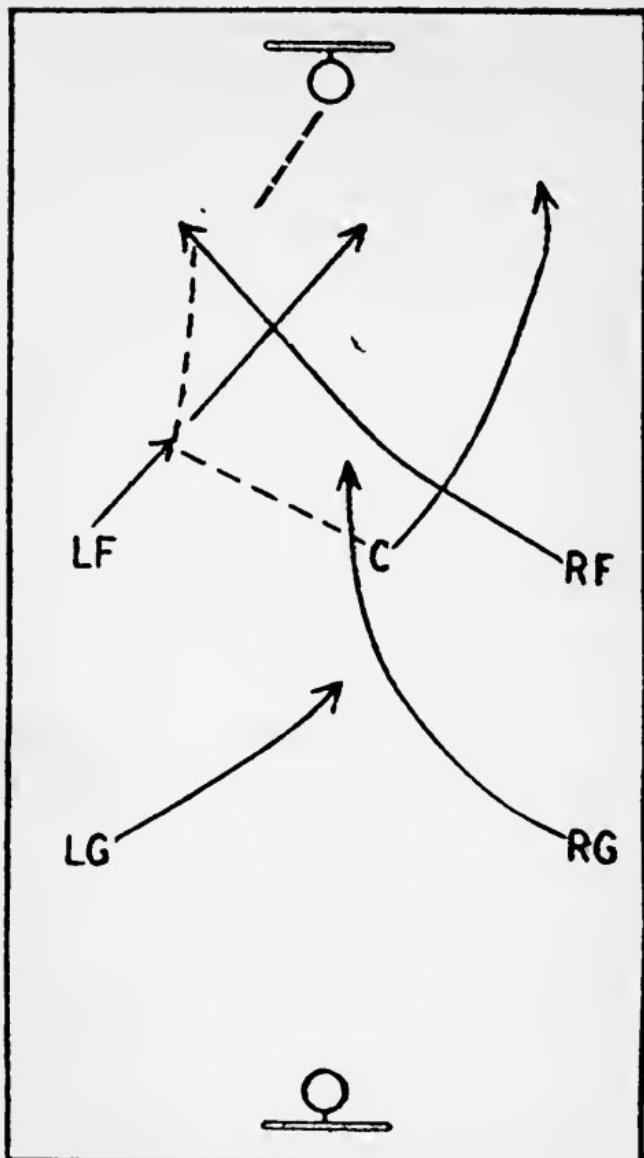


DIAGRAM 10

*LF receives ball, passes to RF, who crosses over to his left. RF starts in as referee tosses up ball. Pass may be made to C if RF is covered, or LF may dribble and shoot.*

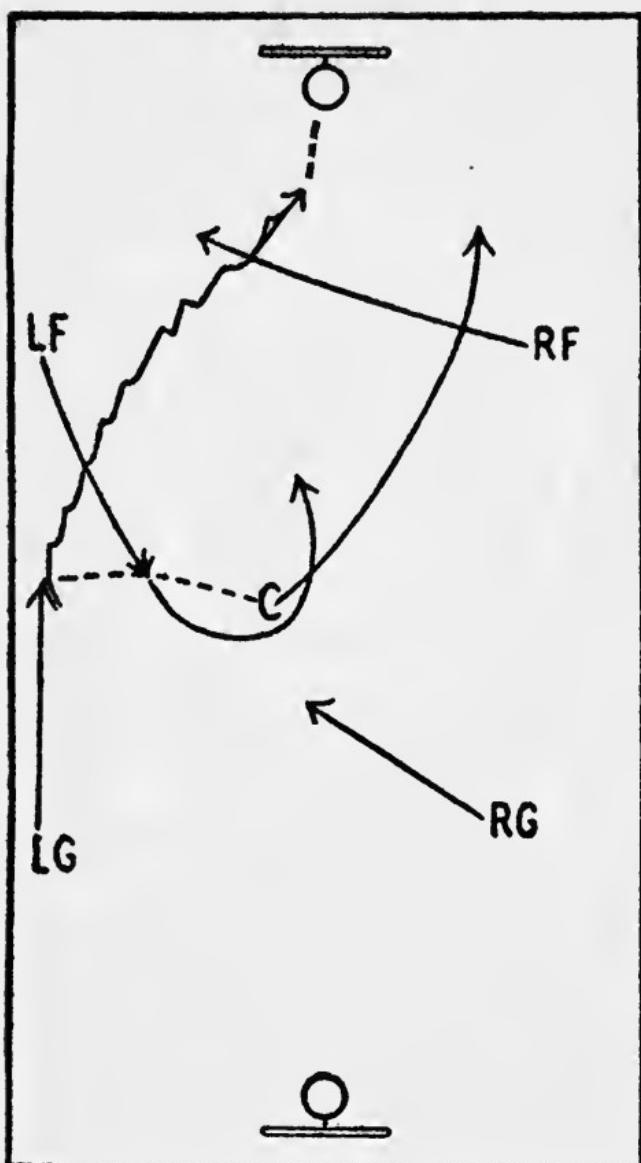


DIAGRAM 11

*LF* receives ball, passes to *LG*, who comes down outside of floor. *LG* dribbles to basket and shoots or passes to *RF* or centre. *LG* should not start in too soon.

## BASKET BALL

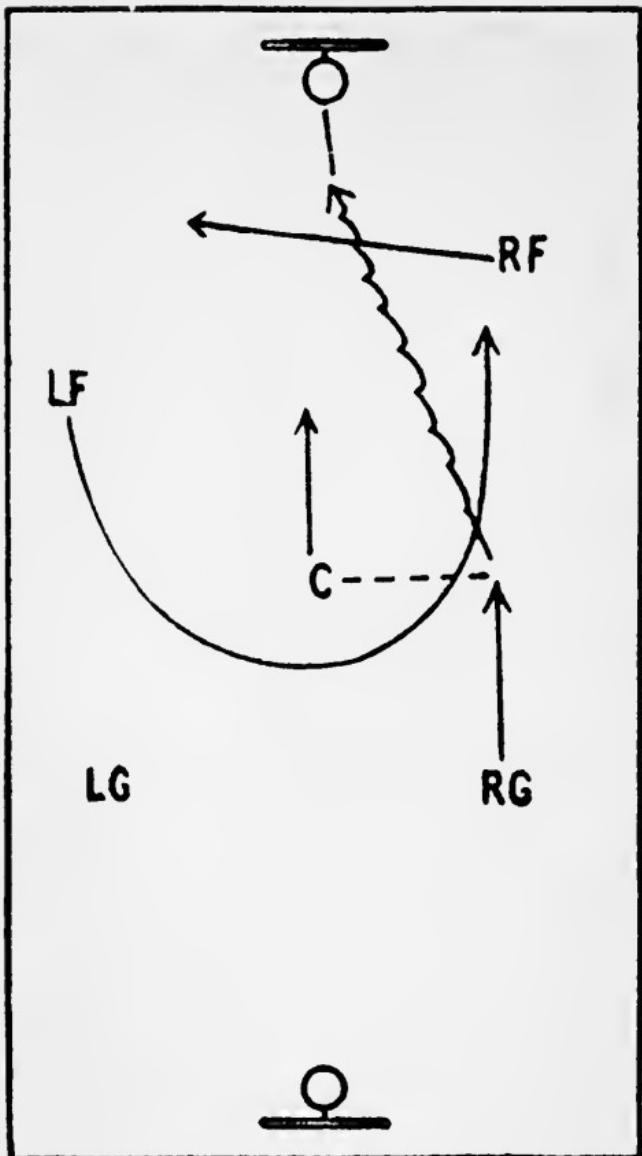


DIAGRAM 12

*RG receives ball and dribbles to basket. He may pass to RF, who crosses to the left, to LF, who is following him in, or back to C.*

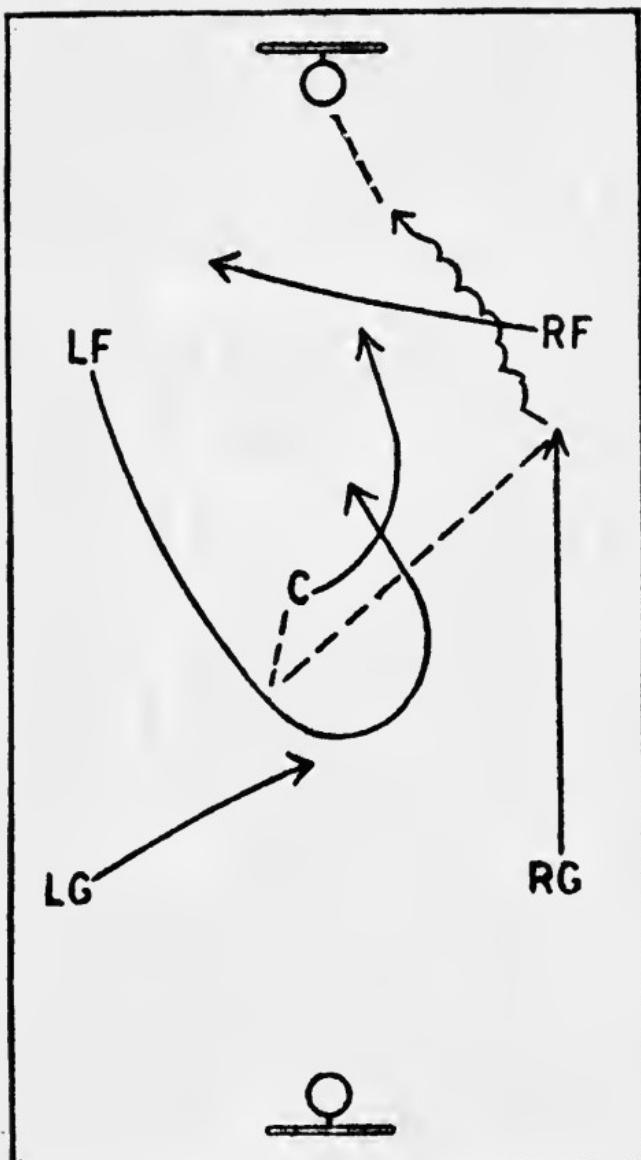


DIAGRAM 18

LF receives ball behind C and passes to RG, who goes down right side of floor.  
RG may dribble in and shoot or, if blocked, pass to RF or C.

## BASKET BALL

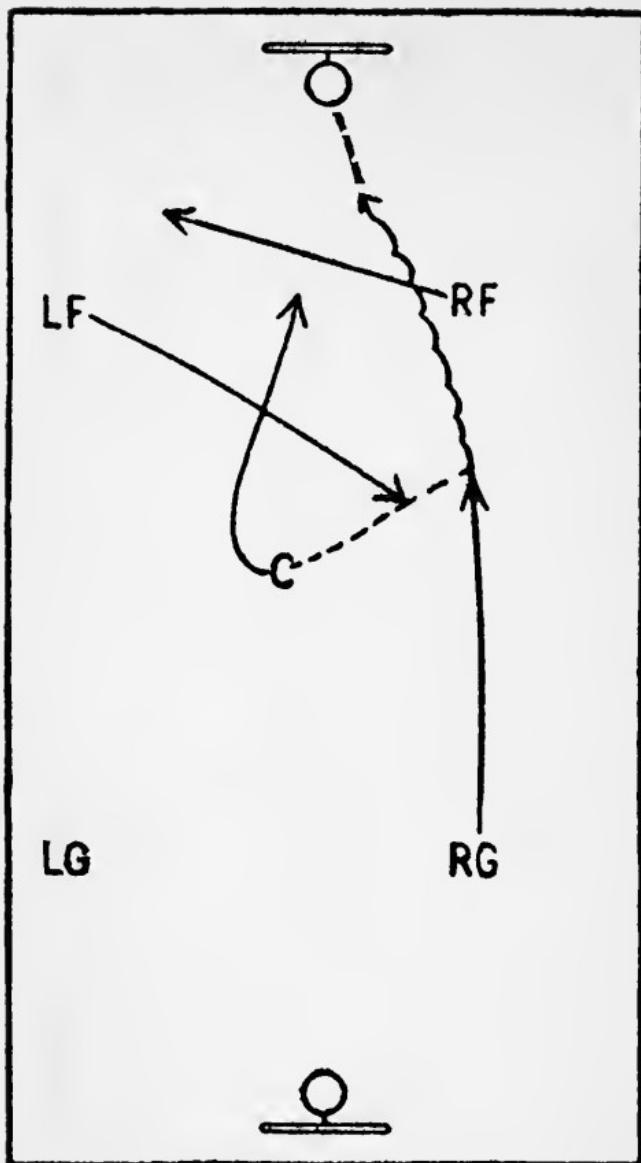


DIAGRAM 14

*LF receives ball on opposite side and passes to RG, who may dribble in and shoot or pass to RF or C.*

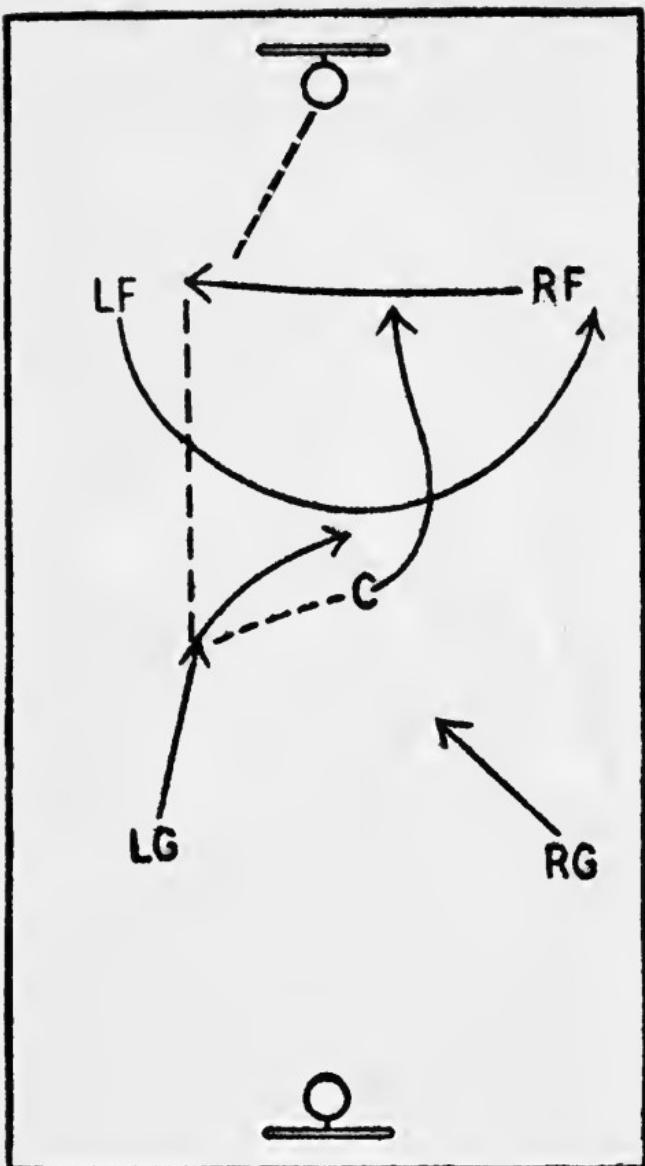


DIAGRAM 15

*LG receives ball and passes to RF. RF shoots or, if covered, passes to C, LF, or LG.*

## BASKET BALL

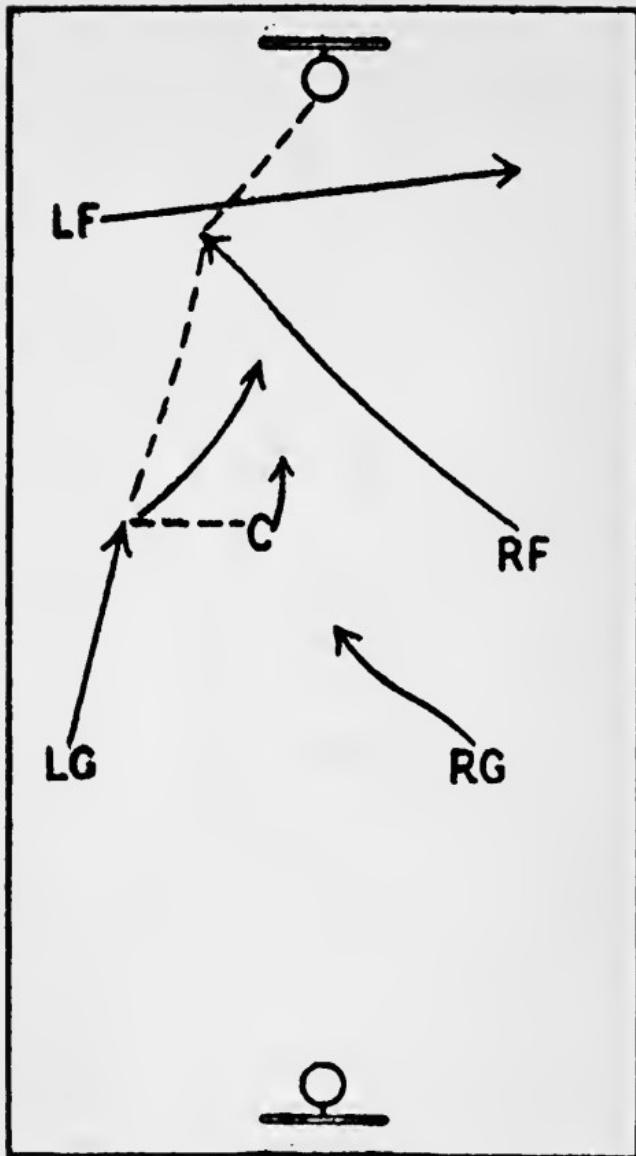


DIAGRAM 16

*LG receives ball and passes either to RF, who has run in, or to LF, who has crossed over. If LG cannot make pass he dribbles as far as possible and shoots.*

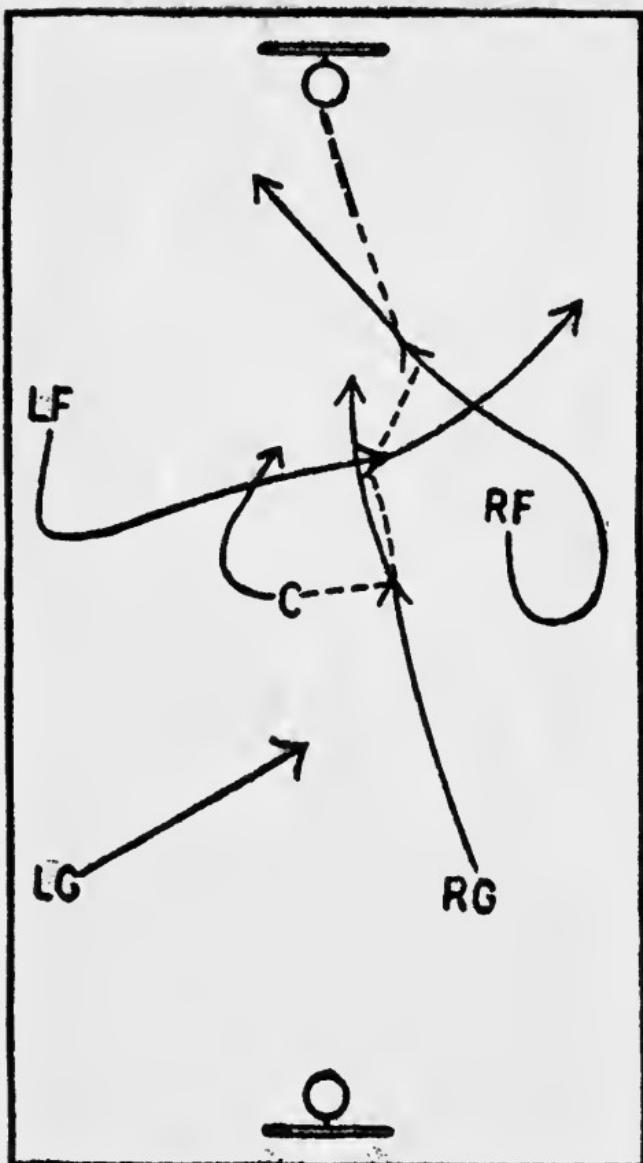


DIAGRAM 17

RG gets ball and passes to LF, who passes to RF. RG continues down floor. C is fourth man in.

## BASKET BALL

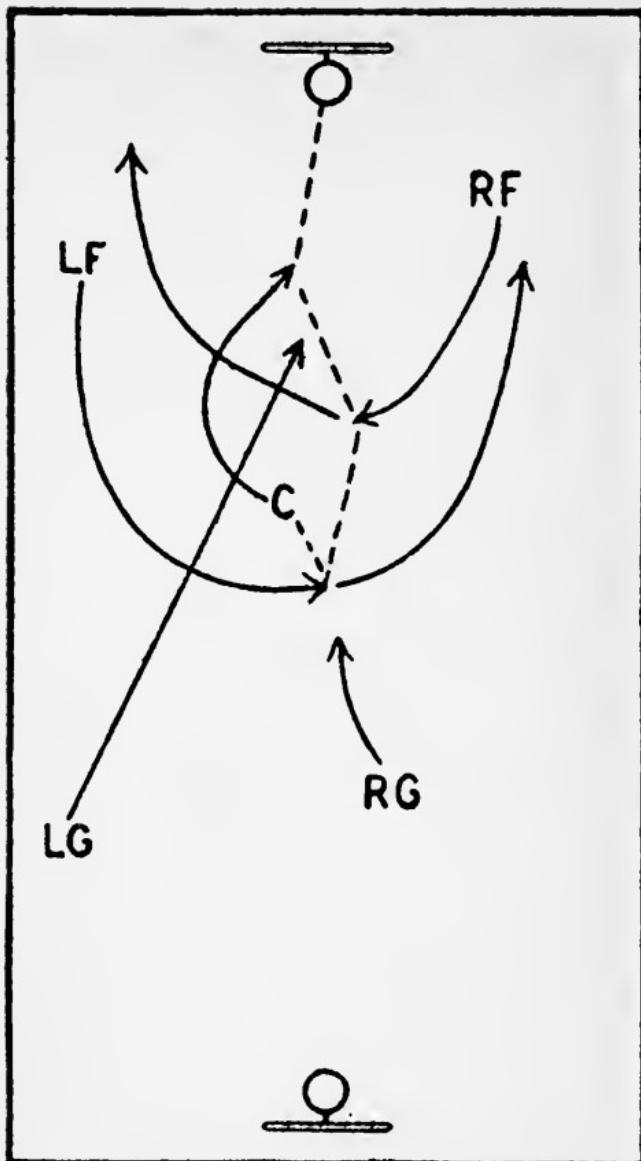


DIAGRAM 18

LF gets ball back of C and passes to RF. RF passes to C, who shoots.

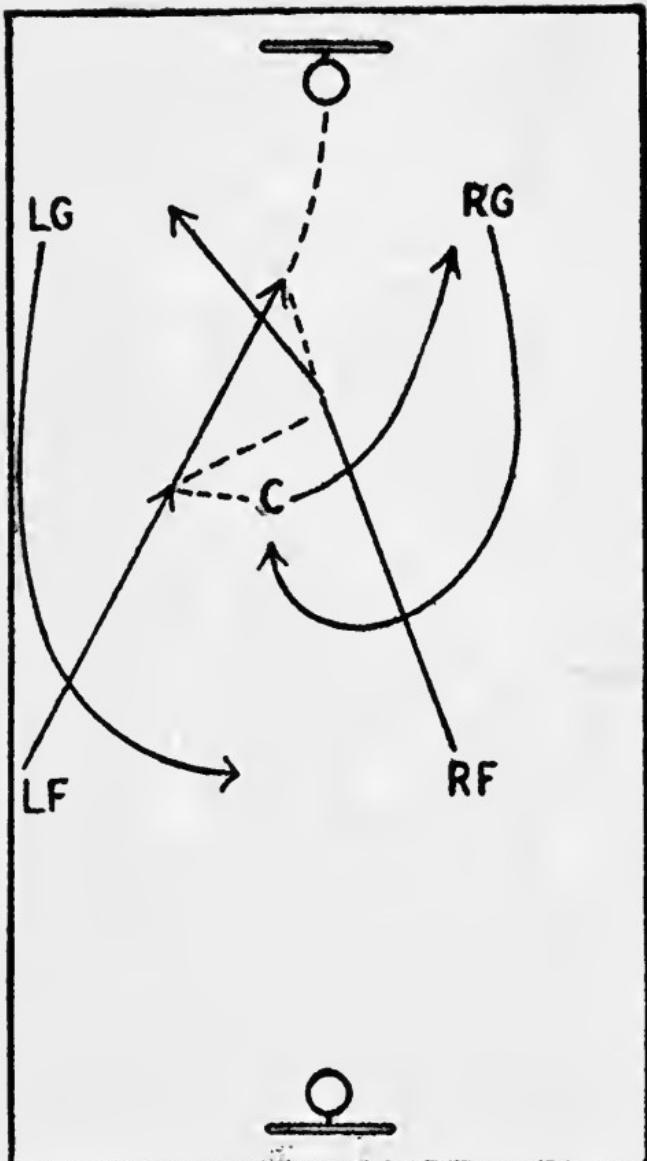


DIAGRAM 19

Forwards and guards change positions on floor. *LF* gets ball and passes it back and forth with *RF* until close enough to shoot.

## BASKET BALL

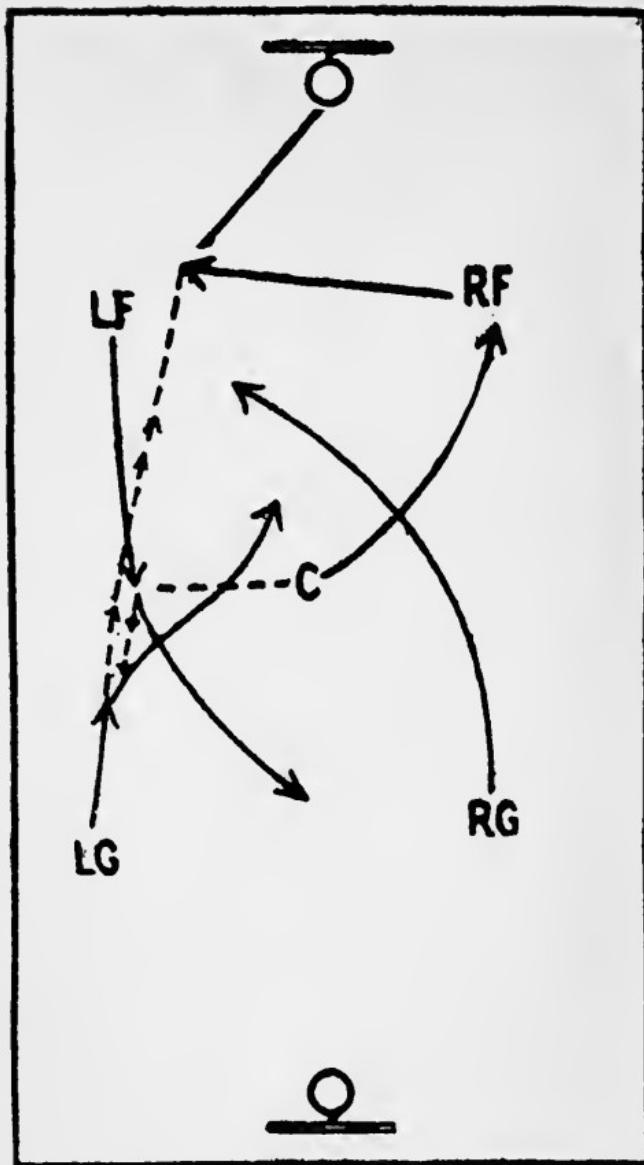


DIAGRAM 20

LF gets ball and passes to LG. LG passes either to RF or RG. LF comes back to guard position.

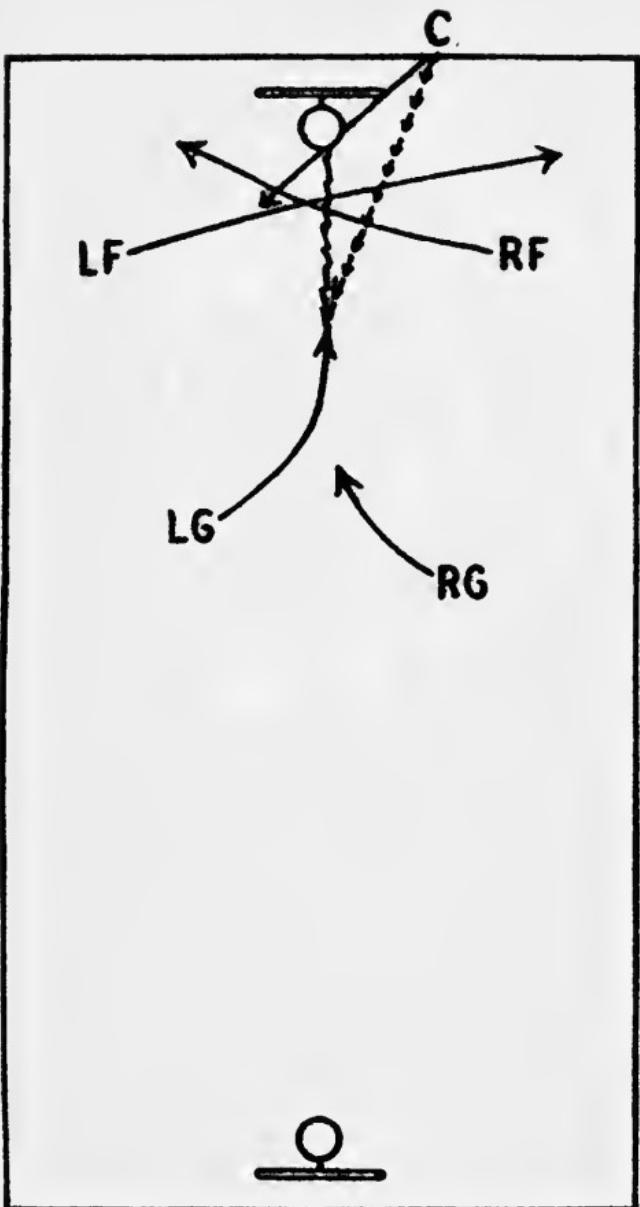


DIAGRAM 21

C has ball out. Forwards cross to opposite sides of floor. Pass is made to guard coming down centre or to either forward. If guard receives ball he may dribble in and shoot or pass back again to centre.

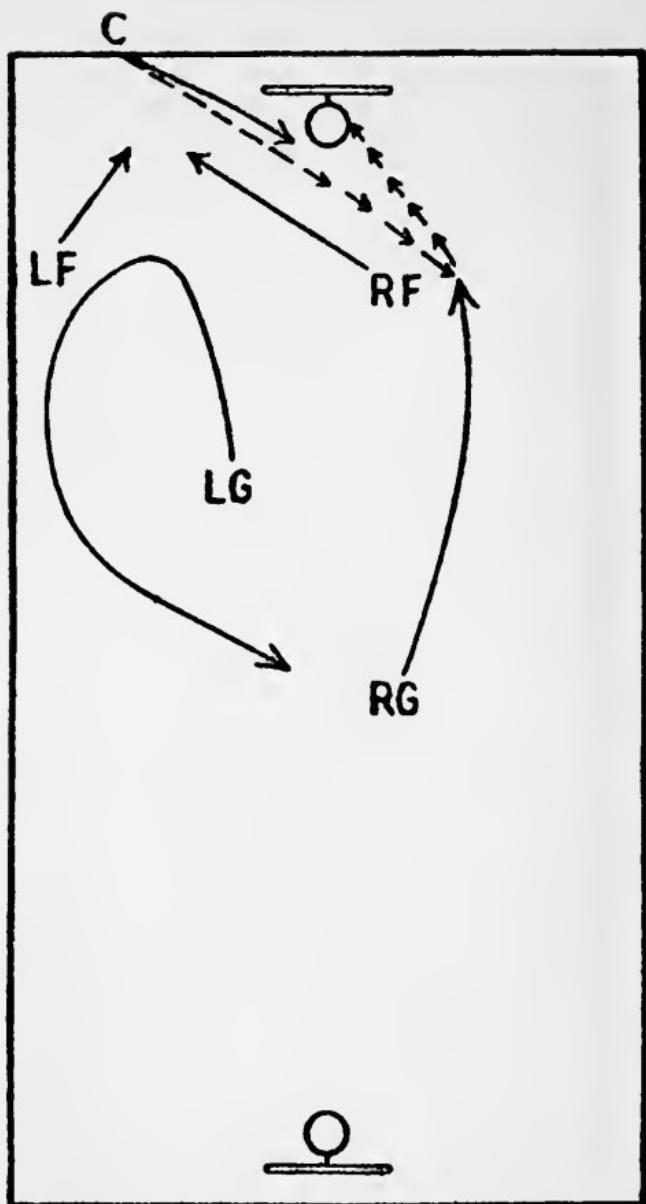


DIAGRAM 22

C has ball out. All other players except RG advance toward centre man as if to receive pass. This clears floor on opposite side permitting RG to receive ball and to shoot. C follows ball in and may receive pass back from guard.

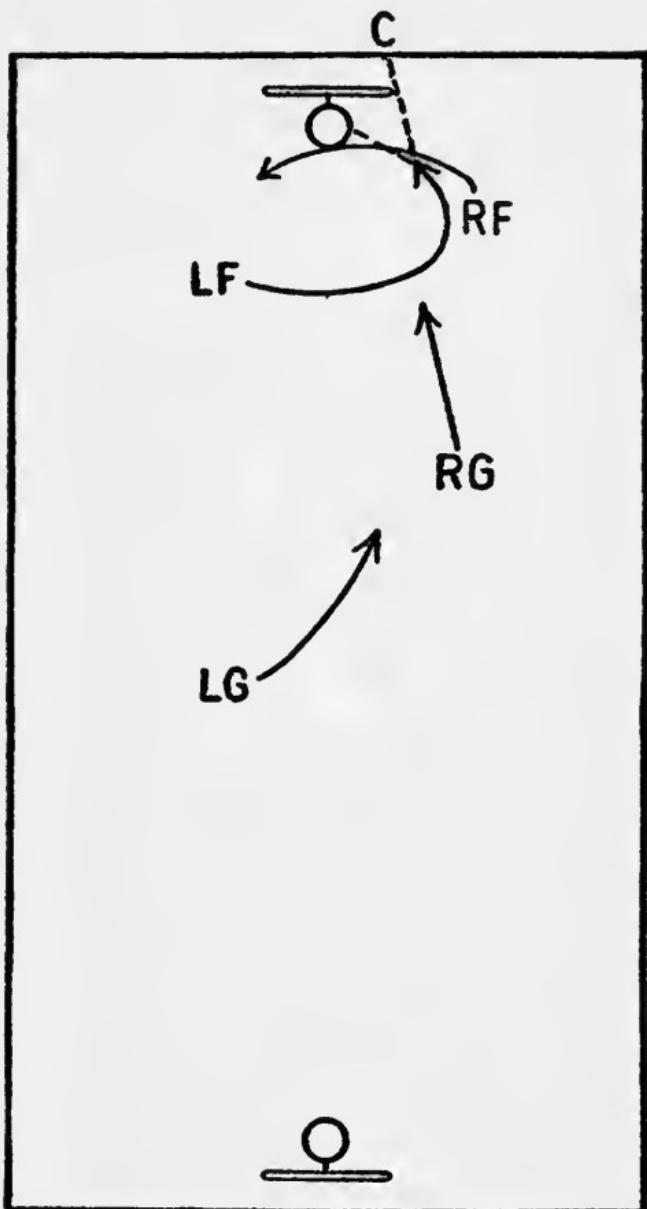


DIAGRAM 23

C has ball and passes either to RF or LF. If both forwards are covered the pass may be made to one of the guards.

## BASKET BALL

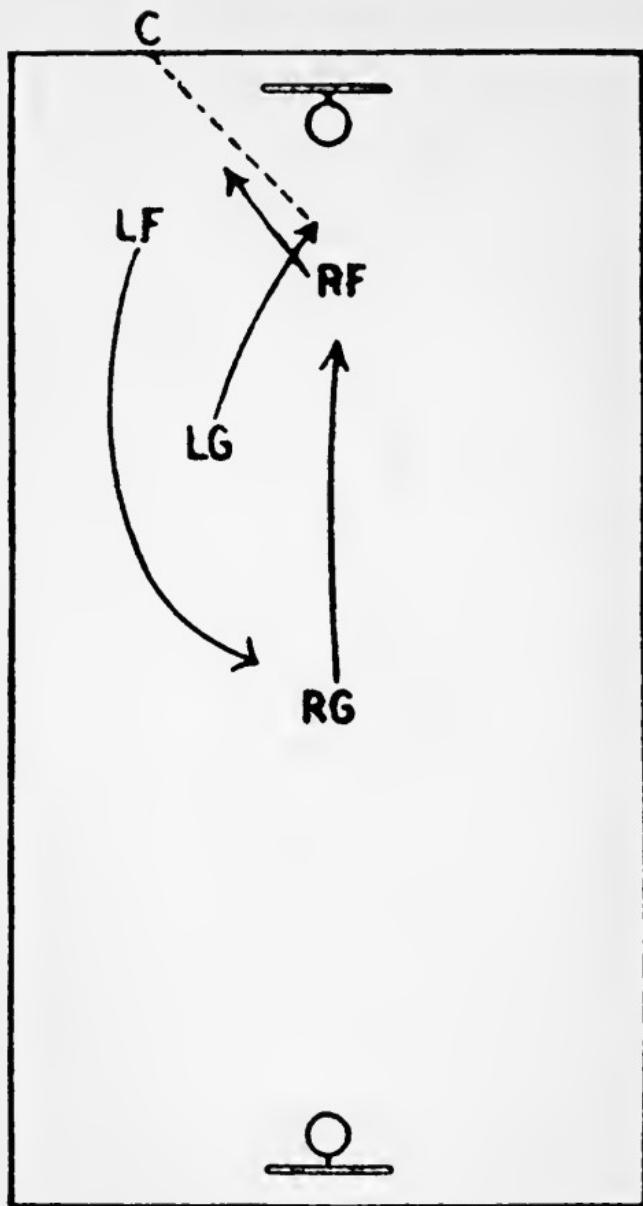


DIAGRAM 24

C has ball. LF comes back to guard position. LG crosses behind RF and receives pass from C. Pass may be made to RG, who follows LG in.

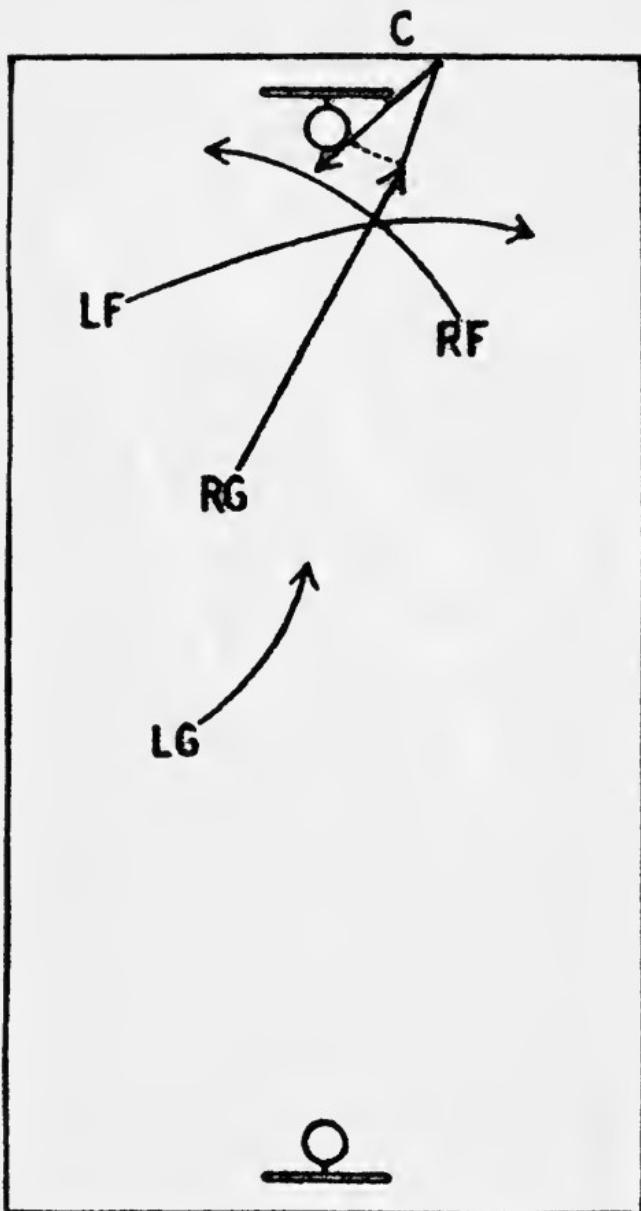


DIAGRAM 25

C has ball. RF is first man in. LF comes in just after RF. If pass cannot be made to either forward, ball is given to RG, who shoots or passes back to C.

## BASKET BALL

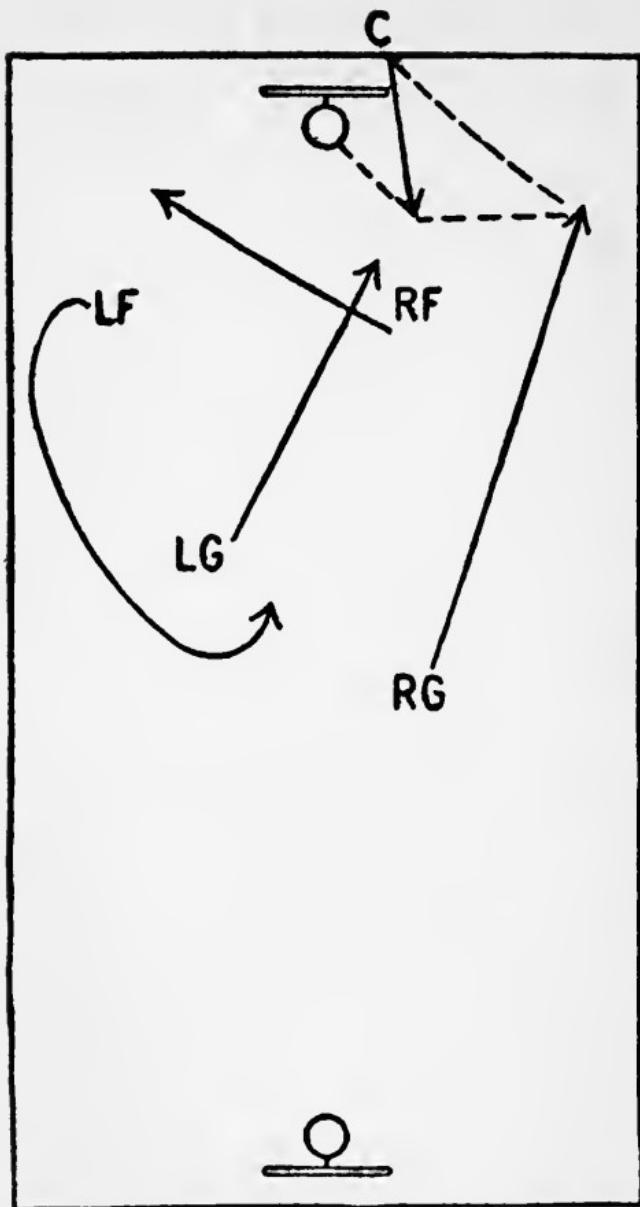


DIAGRAM 26

*RF* crosses to left. *RG* comes down right side of floor, takes pass, and passes either back to *C* or to *LG*.

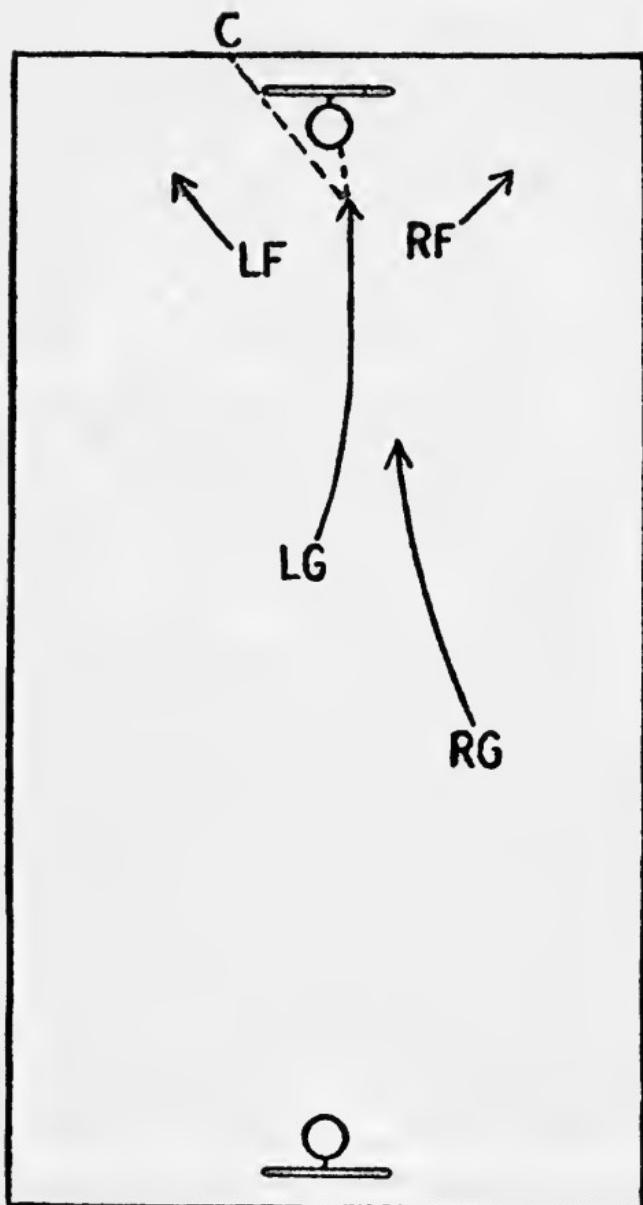


DIAGRAM 27

Forwards go to their respective sides of floor, drawing opposing guards away from centre of floor. *LG* receives pass and shoots. If *LG* is covered, pass may be made to *RG*.

## BASKET BALL

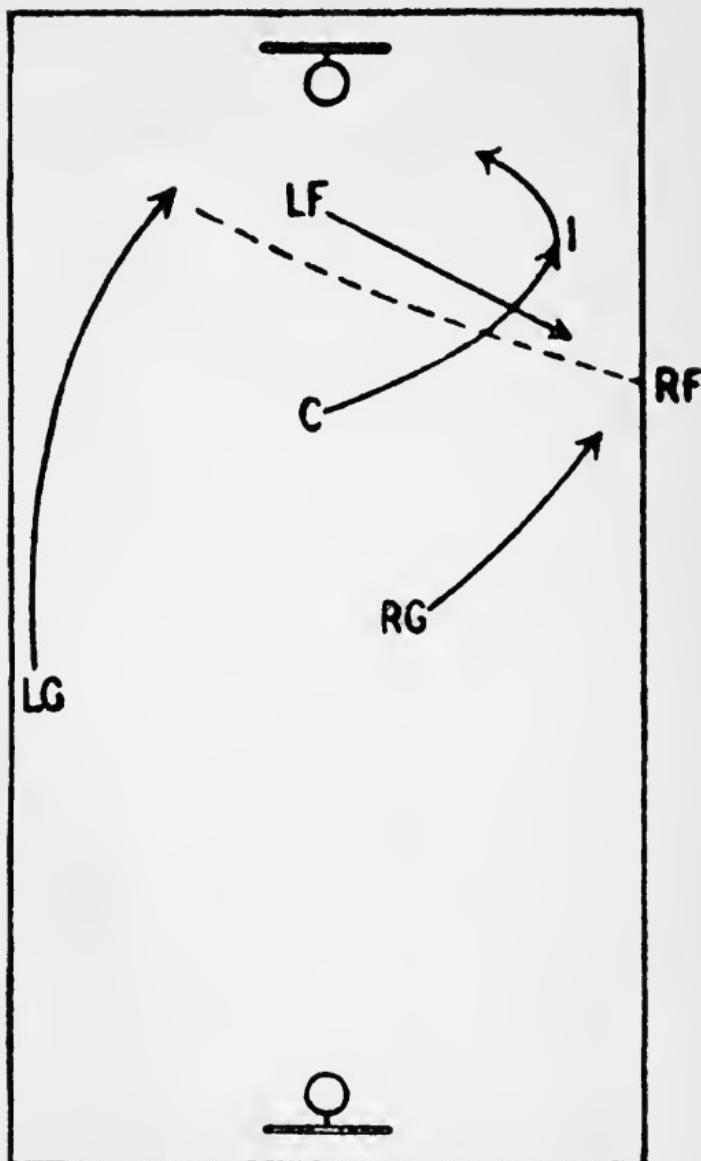


DIAGRAM 28

RF has ball. Other players except LG go toward other side of floor. Pass is made to LG or to C at 1.

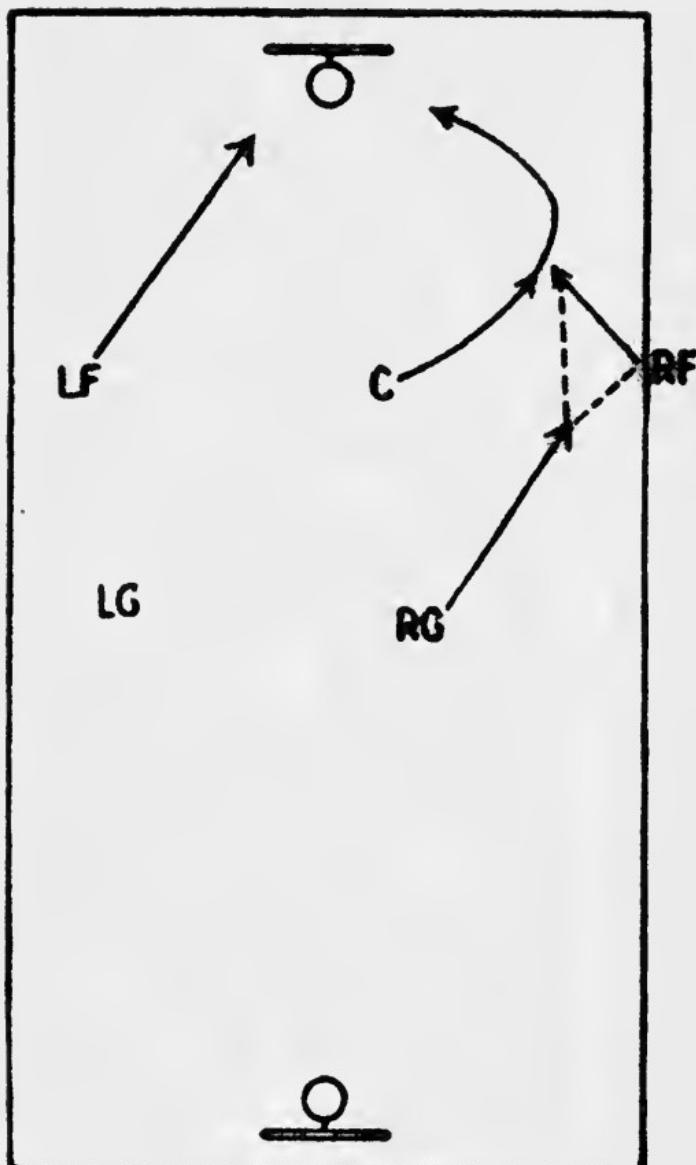


DIAGRAM 29

C starts toward player out of bounds and calls for ball. Pass is made, however, to RG. RG passes back to RF or C. If RF receives ball he may shoot, or pass to C or LF.

## BASKET BALL

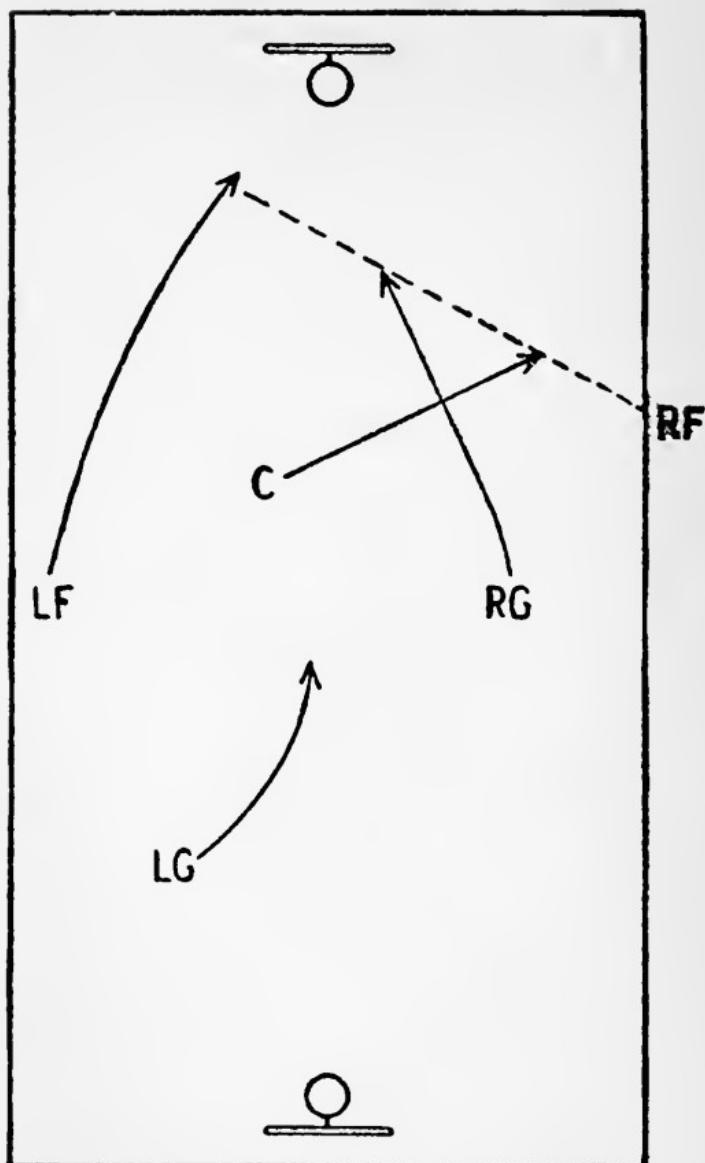


DIAGRAM 30

*LF and RG advance toward opponents' goal. RF makes pass to whichever one is uncovered. If both are guarded, pass is made to C, who crosses over behind RG.*

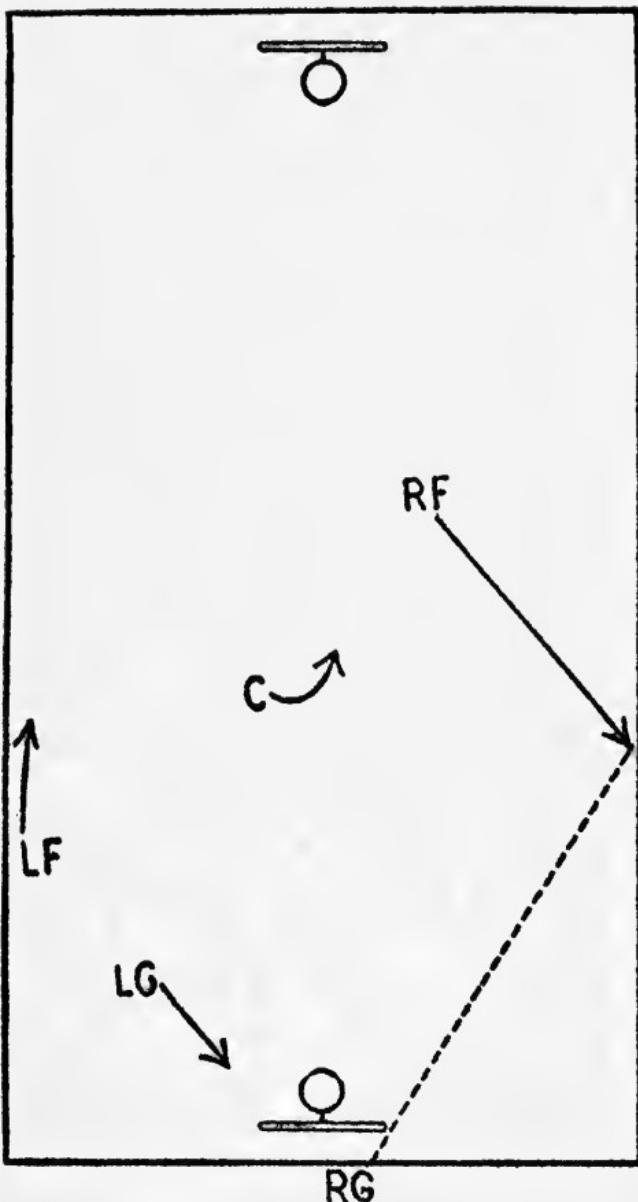


DIAGRAM 31

RG has ball and passes to RF near side-line. If uncovered, pass may be made to LF or C.

Plays 31 to 36 may be used when team passing in from under its own basket is opposed. The opponents here may be trying to intercept the ball rather than play the five-man defense.

## BASKET BALL

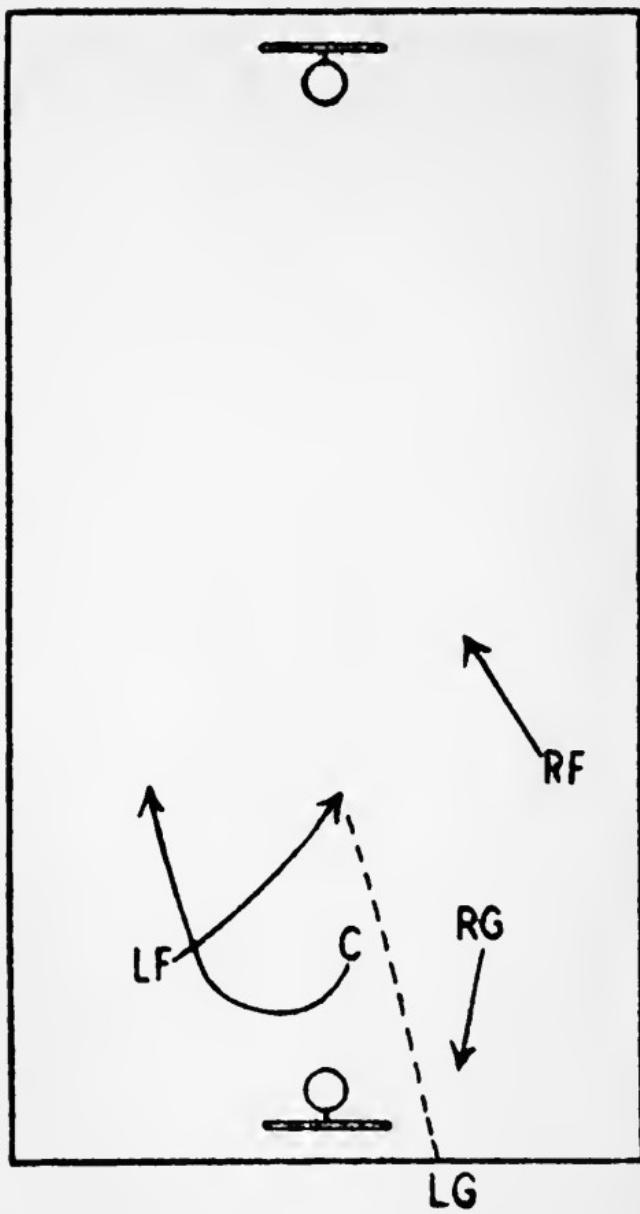


DIAGRAM 32

C and RG start in toward their own goal. Pass is made to LF, who goes down middle of floor.

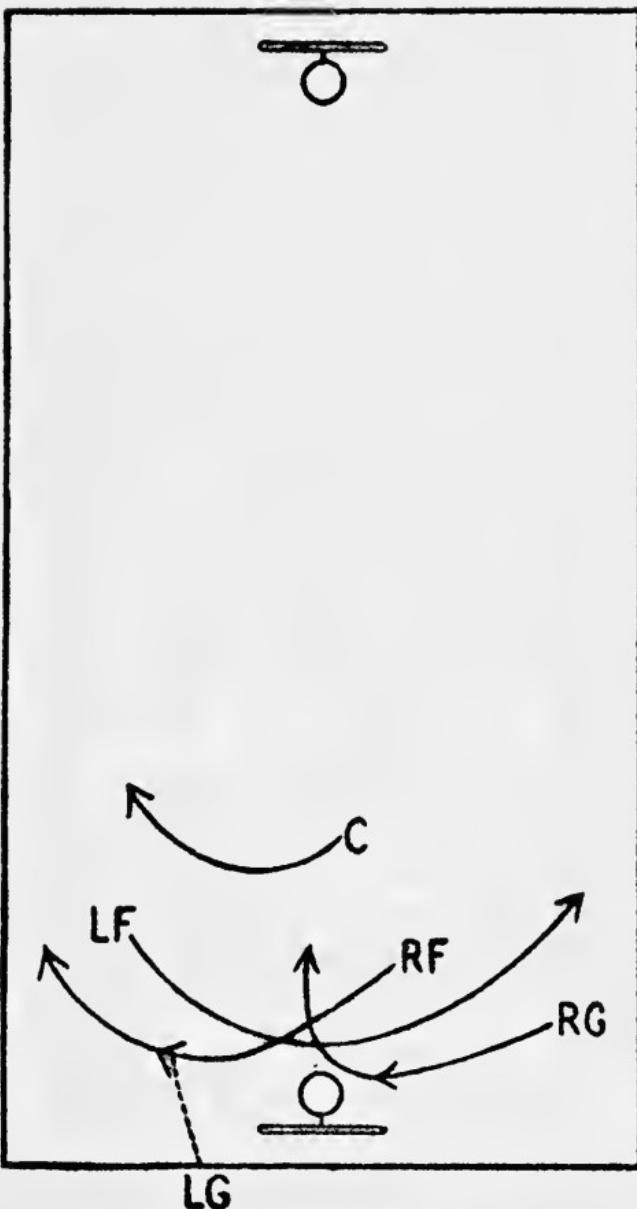


DIAGRAM 33

Forwards cross to opposite sides of floor. *LF* crosses first. *RF* receives pass.  
Pass may be made to *C* or *RG*.

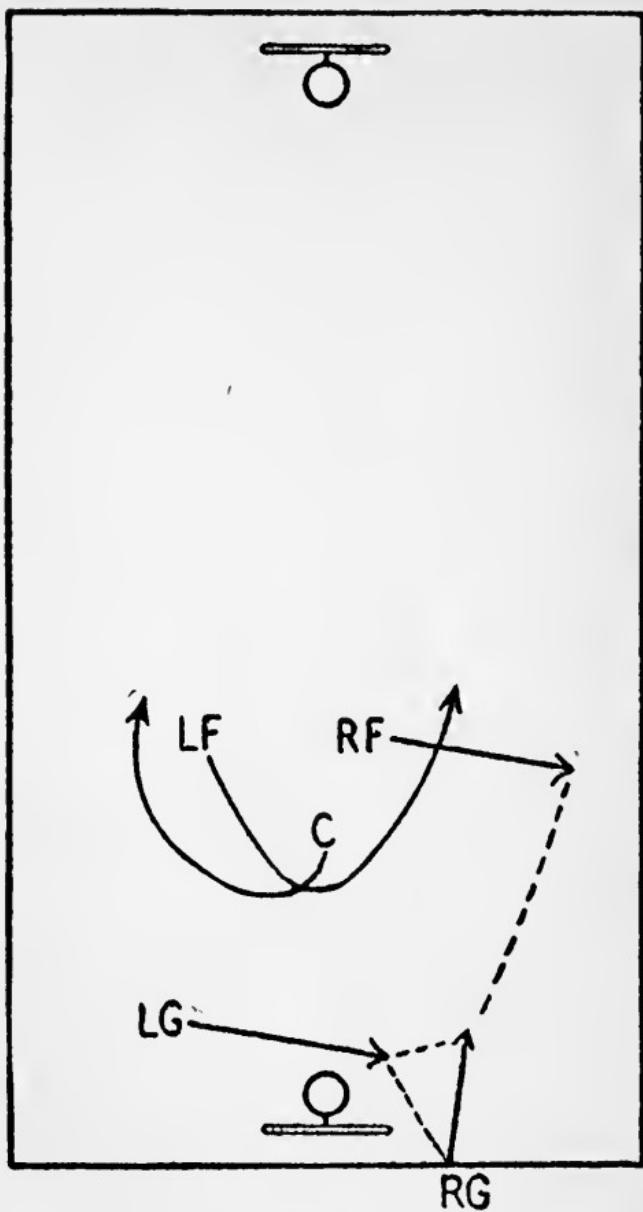


DIAGRAM 34

*RG makes pass to LG, comes in, receives ball again, and passes to RF.*

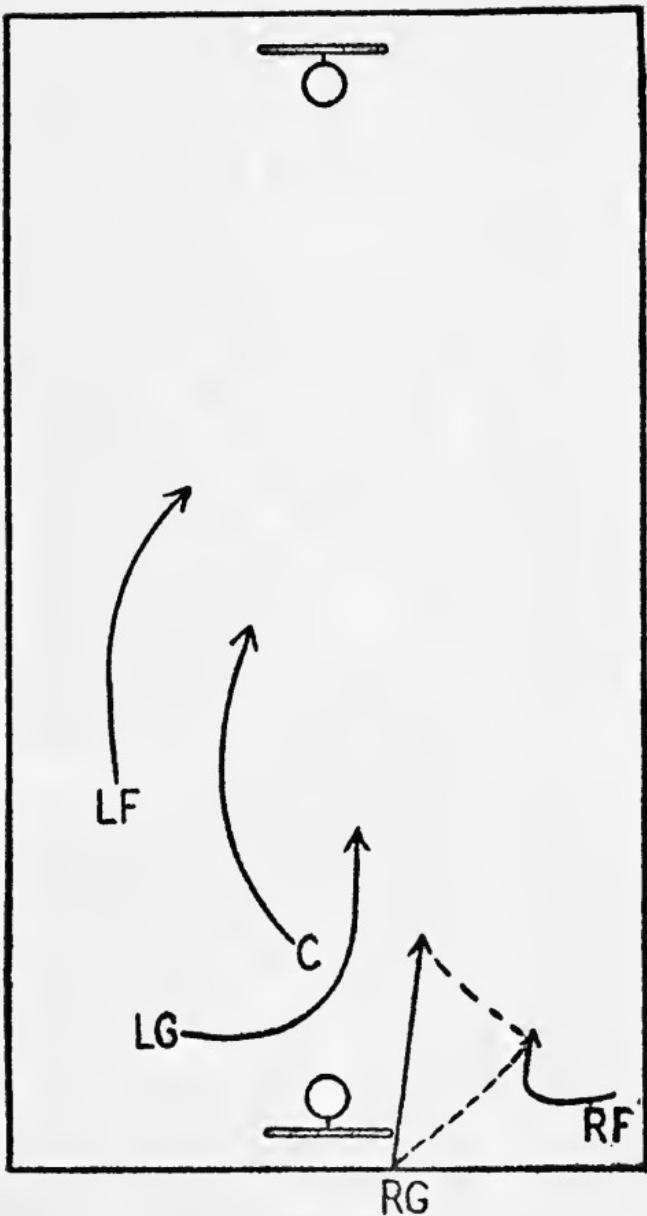


DIAGRAM 35

*RG* passes to *RF*, runs in and receives ball again. His play now may be to any of the three men going down left side of floor. *RG* and *RF* go down right side of floor.

## BASKET BALL

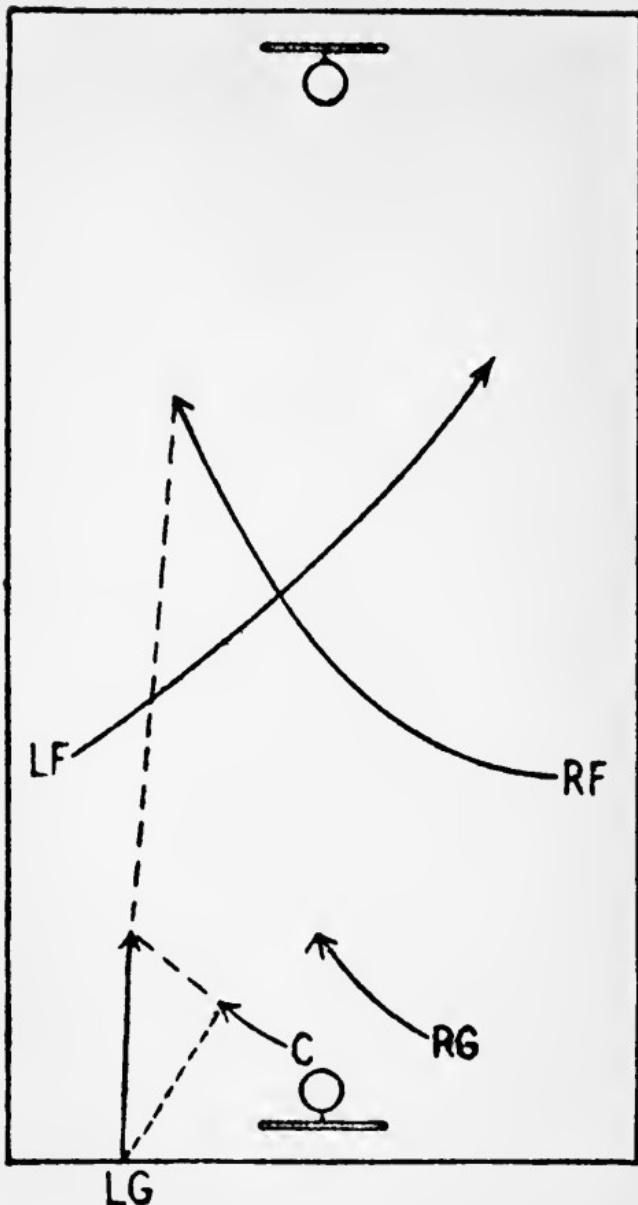


DIAGRAM 36

Play depends upon successful crisscross work of forwards. The long pass may be made to *RF* under goal. Other players continue down the floor.

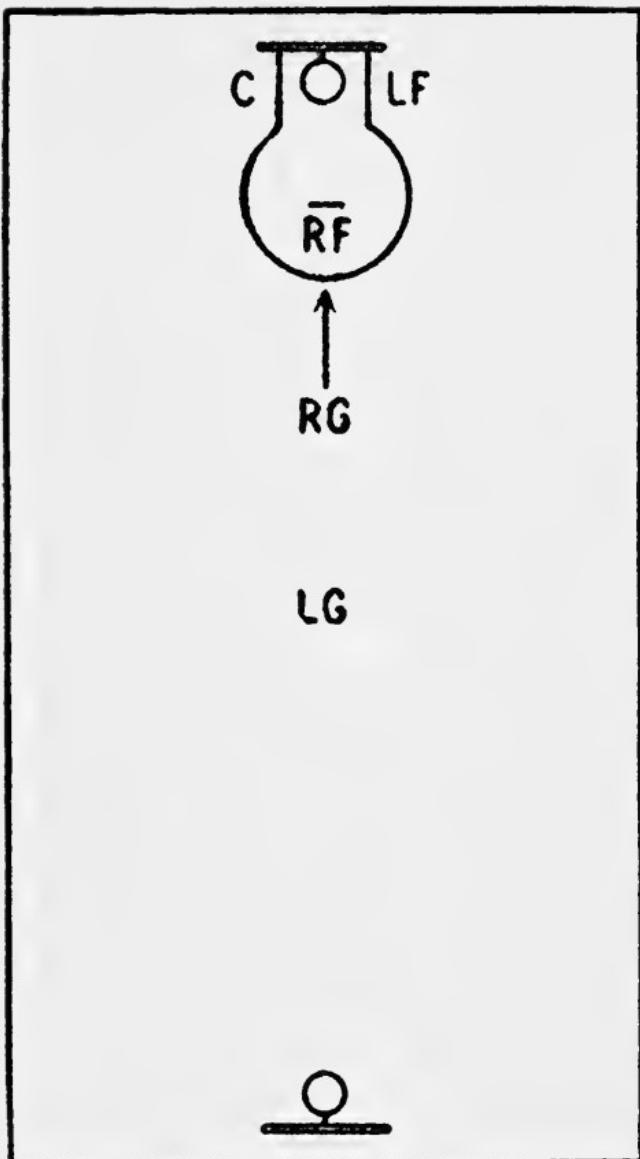


DIAGRAM 37

If ball comes straight back after missed free throw, shooter tries again for the basket or, if covered, passes back to guard, playing immediately behind him.

Plays 37 to 41 are from foul circle after an attempted free throw.

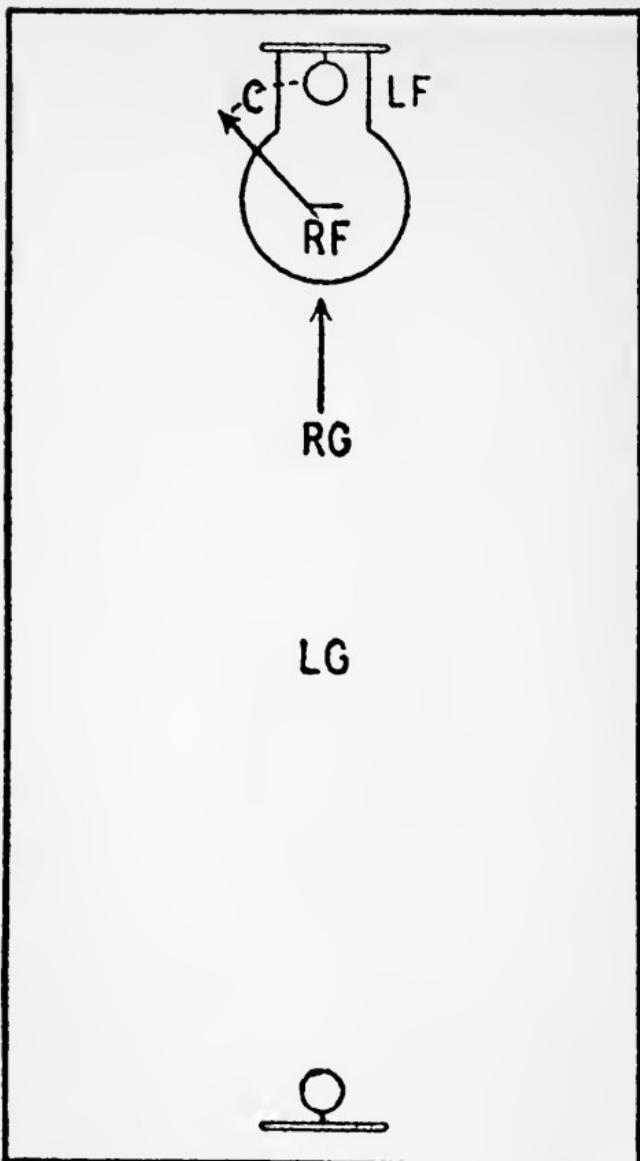


DIAGRAM 38

If basket is missed and ball drops to one side, it is tipped back toward the sideline by the player standing on that side of the basket. Foul thrower runs over to that side, recovers ball, and shoots. He waits, however, until he sees on which side of the basket the ball is going to drop. He may make pass to guard who comes in.

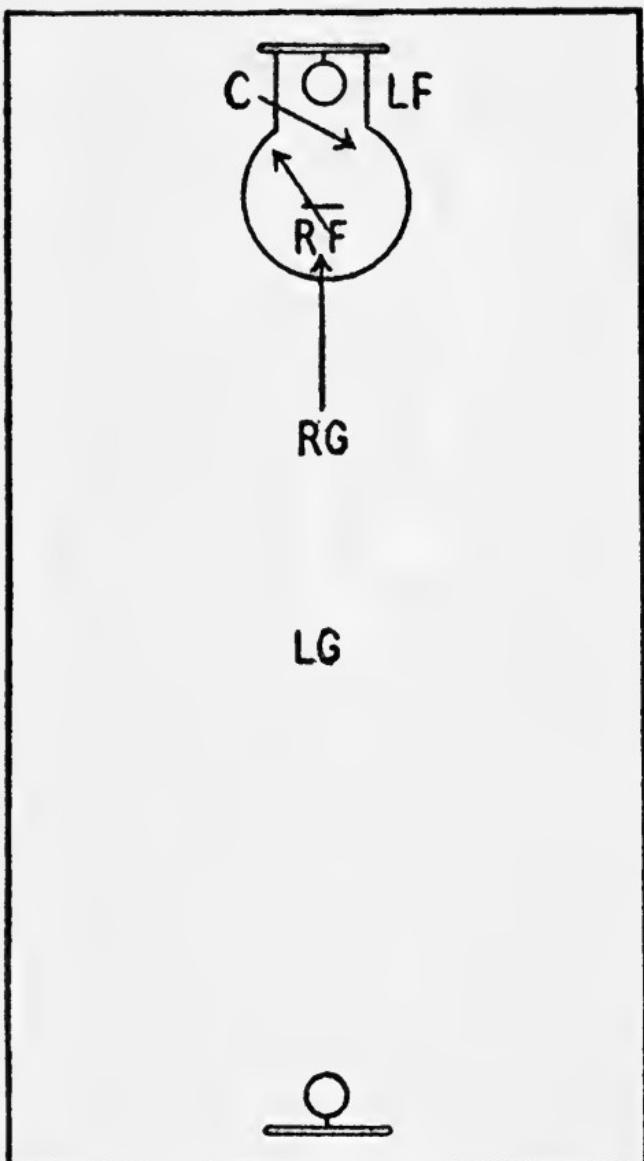


DIAGRAM 39

If basket is missed and ball falls on left side, *C* taps it back to foul-line to *RG*, who comes in, gets ball, and shoots. If ball drops on right side of basket the corresponding play is made from that side by *LF*.

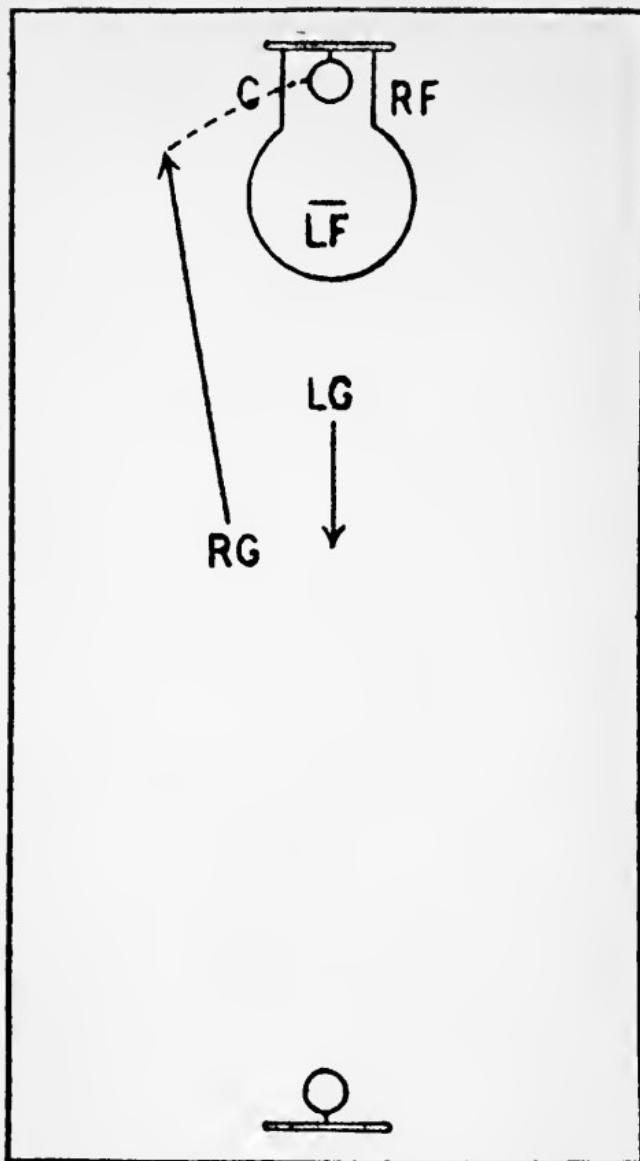


DIAGRAM 40

If basket is missed and ball drops to left side, it is tipped back to RG, who comes down floor, gets ball, and shoots. If ball drops on opposite side or comes straight back to foul thrower, it may be batted over to guard.

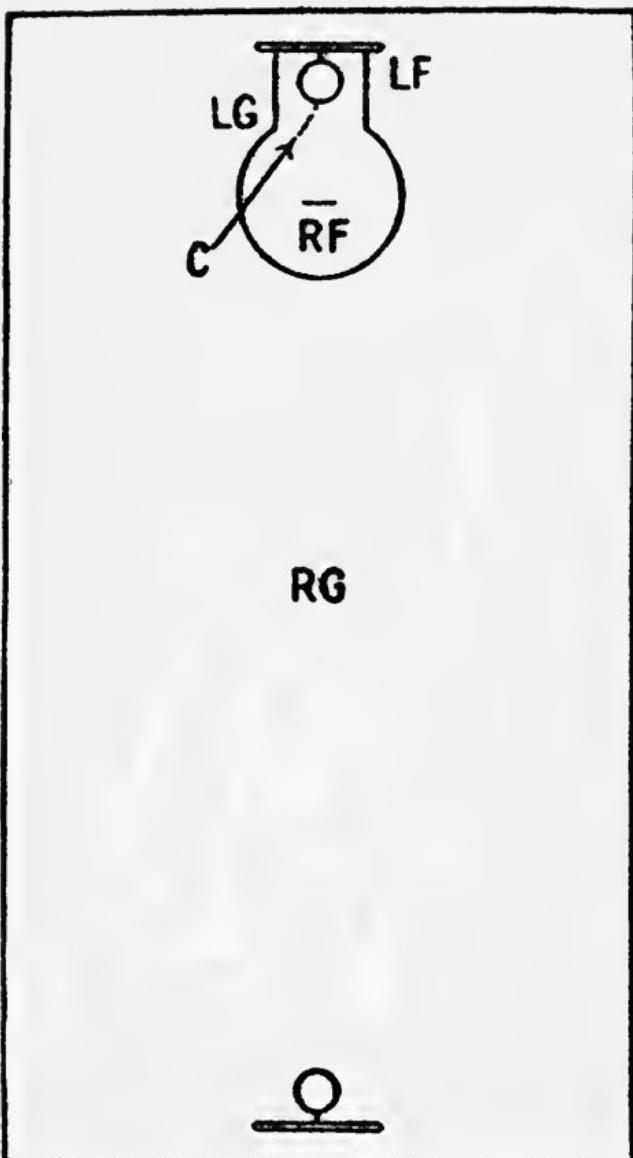


DIAGRAM 41

C stands back and to the side of the foul circle. If goal is missed, he runs in, jumps into the air, and tips the ball into the basket. Two men may play back and both rush in. The play may be varied by having player who rushes in tip the ball back to foul shooter.

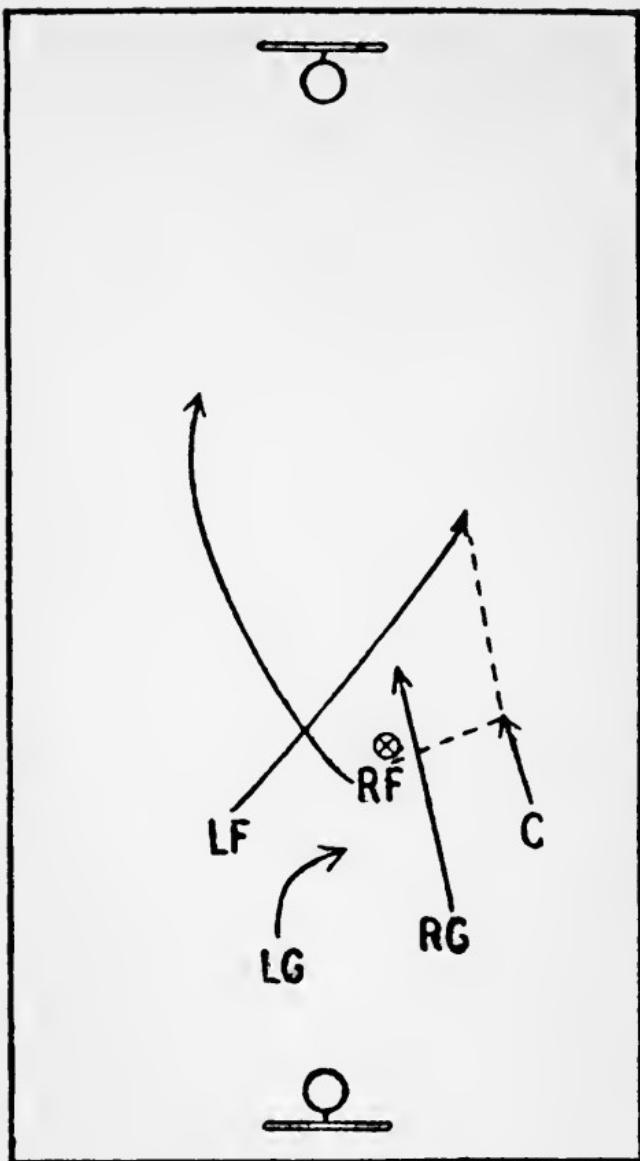


DIAGRAM 42

RF jumps, tips ball to C, and goes down left side of floor. C dribbles or passes to LF, who crosses over to right. Crisscross play down the floor.

Plays 42 to 45 are from "jump ball" position.

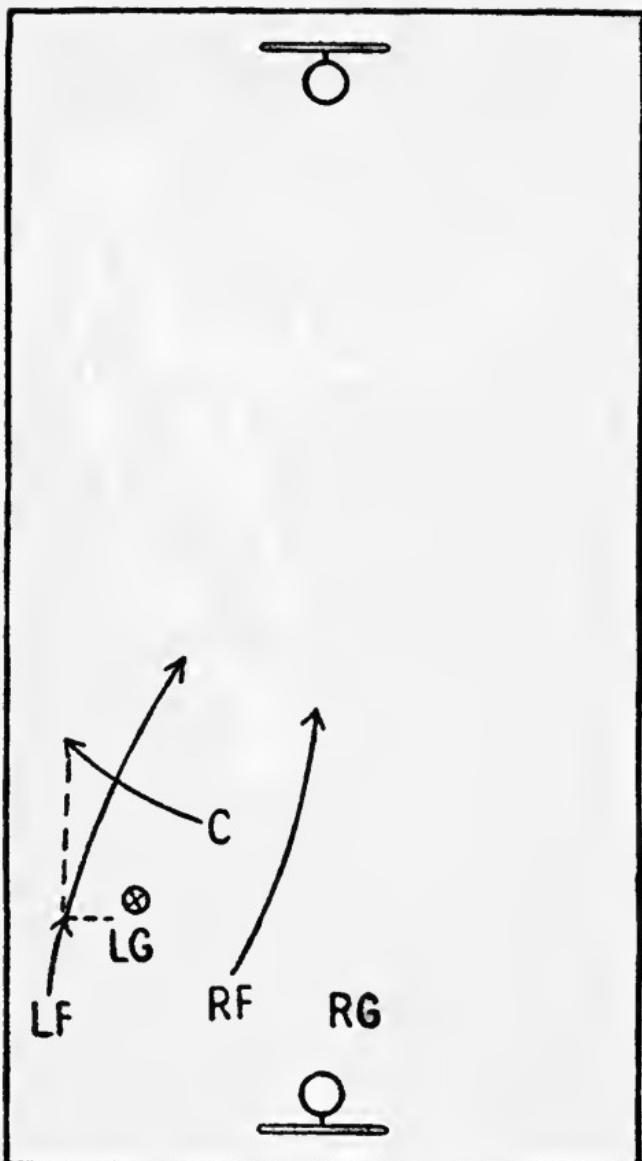


DIAGRAM 43

*LG jumps. LF gets ball, who passes to C. Crisscross play down the floor.*

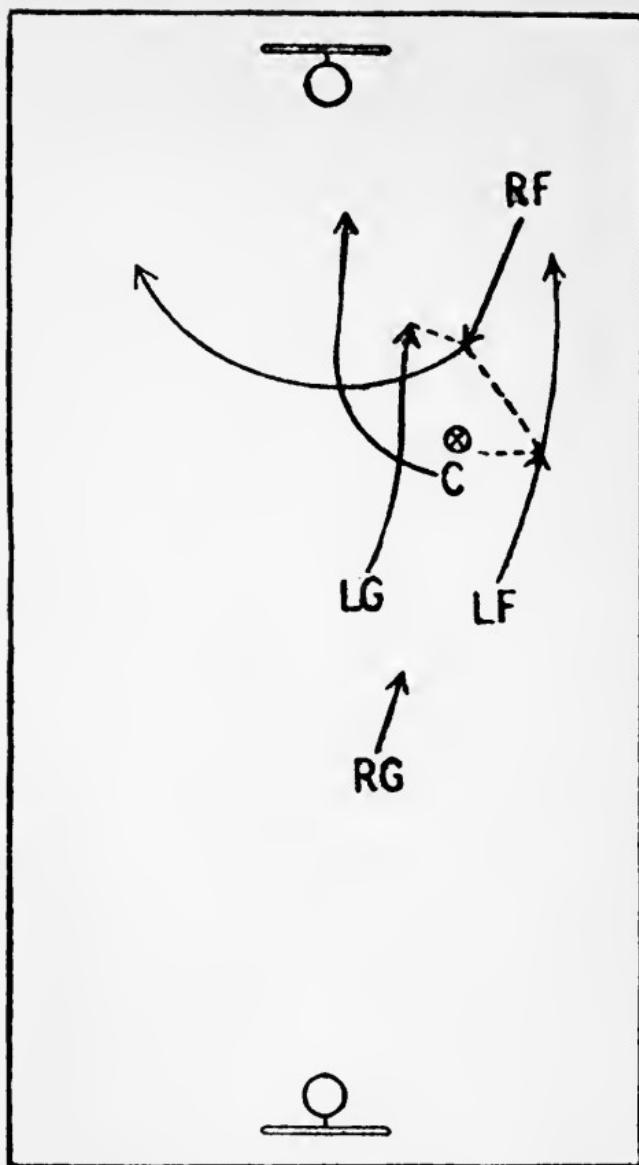


DIAGRAM 44

*LG and LF go in on their respective sides; LF gets ball, passes to RF, who passes to LG. Pass may be made to C. Players assume these positions as soon as held ball is called in this territory.*

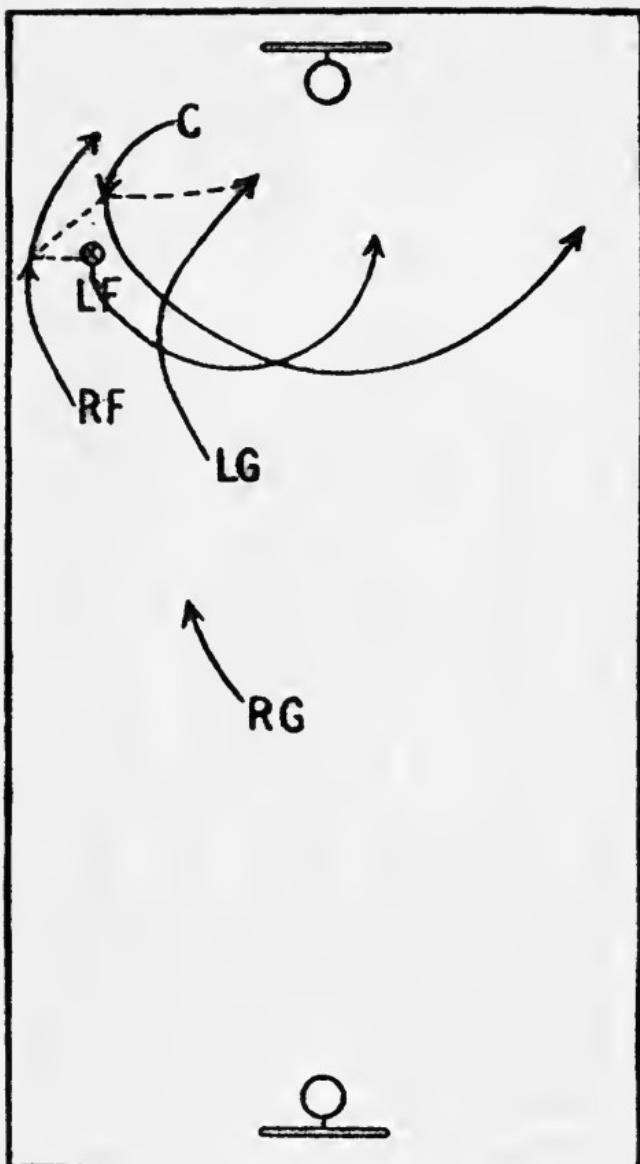


DIAGRAM 45

This play is the same as 44, except that it is on opposite side. Ball may be batted to *C* if man jumping clearly has jump, or to *LG* on inside of floor.

## BASKET BALL

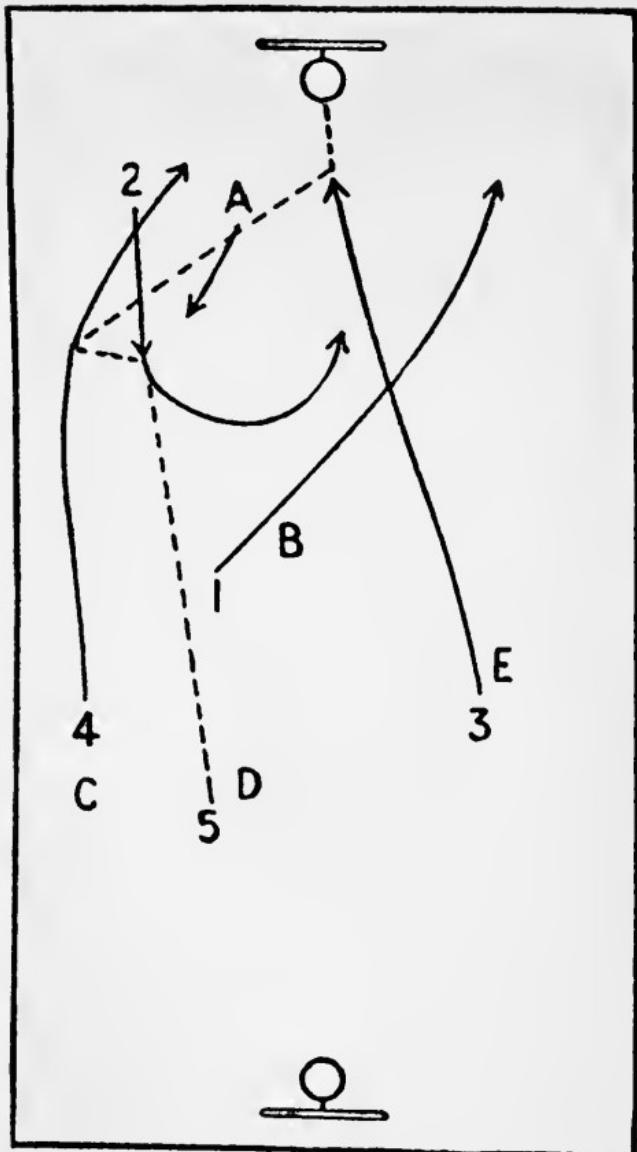


DIAGRAM 46

5 intercepts pass, 2 comes down floor and takes long pass from 5 and in turn gives ball to 4, who passes to 3 to shoot. 2 might have passed to 1 or 5 if he had not been covered by A.

This play illustrates how long and short pass may be combined in taking ball down floor. It may be used where one forward stays close to opponents' basket, and the opponents use the tandem formation in defense; i.e., one guard behind the other.

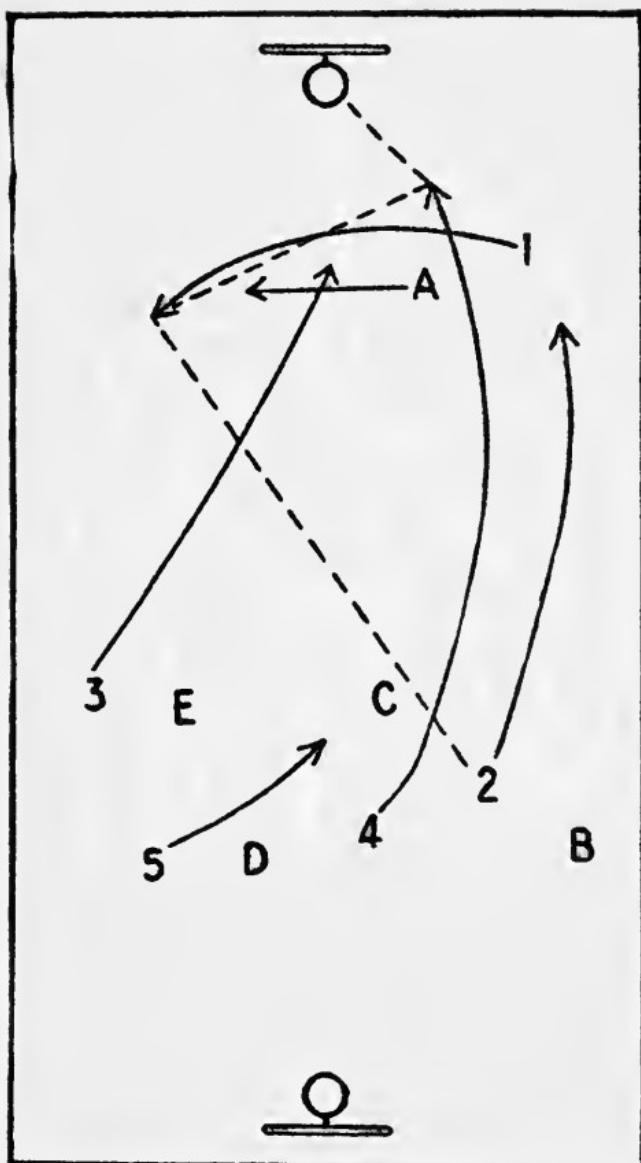


DIAGRAM 47

In preceding play forward comes straight in to meet long pass. In this play forward crosses to opposite side to receive pass. 1 passes to 4, who shoots. Pass may be made to 3 from 1.

## BASKET BALL

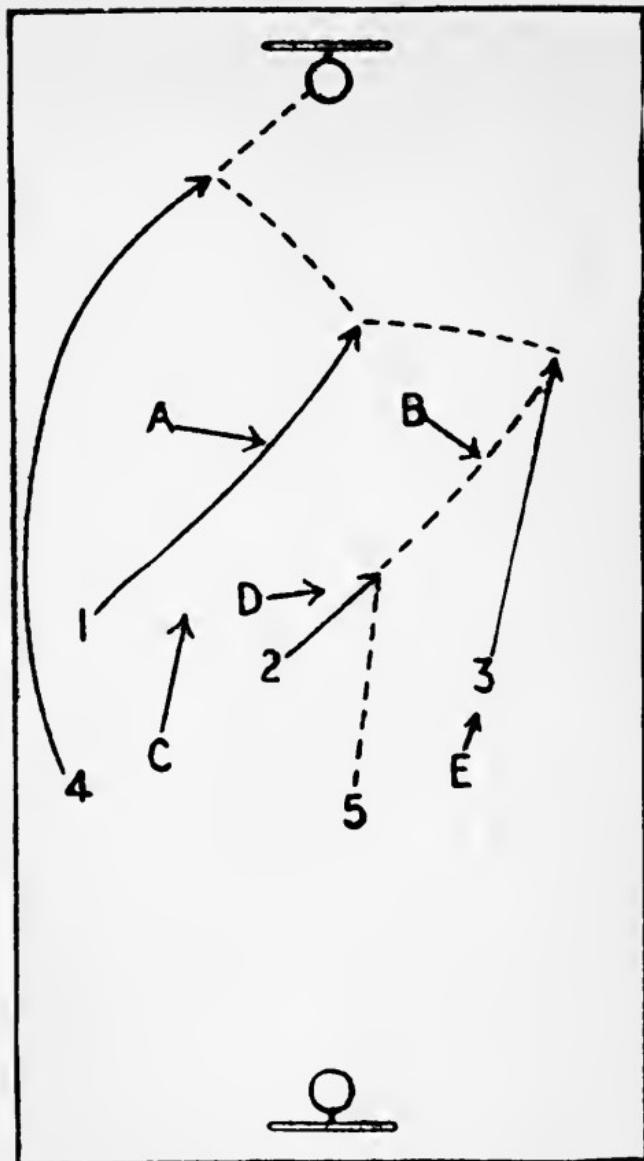


DIAGRAM 48

This play illustrates an offense begun from a five-man defense and against a twin type of defense; i.e., two guards back one on each side of floor. By short passes ball is worked to right side of floor, giving running guard chance to go down left side and shoot.

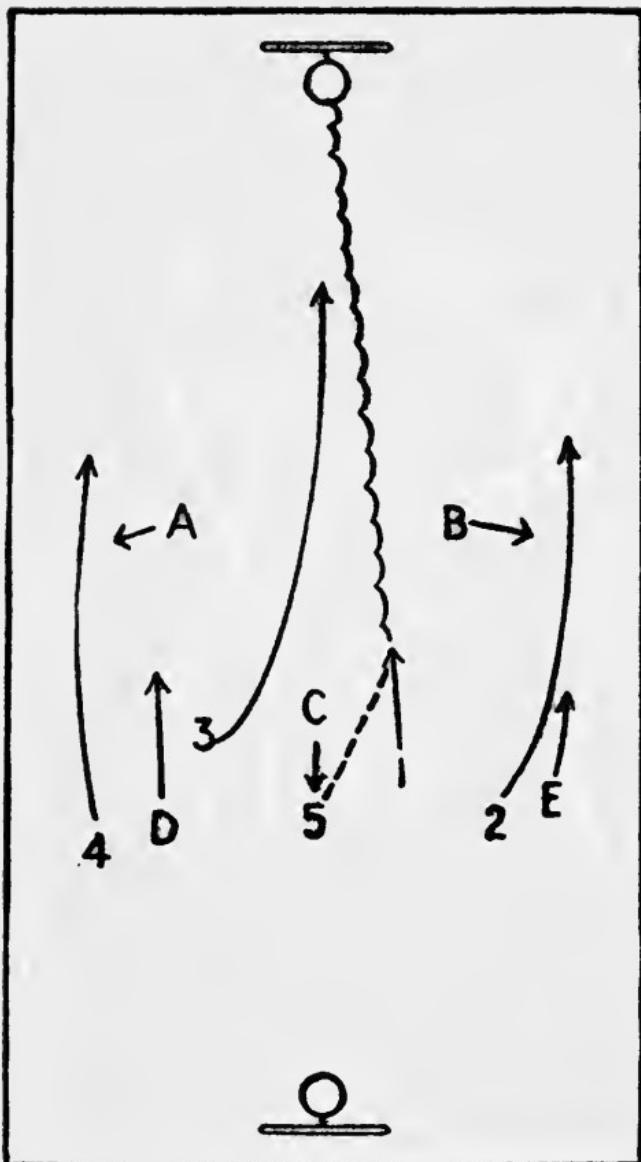


DIAGRAM 49

5 intercepts ball on attempt of opponents to break five-man defense, and passes to 1, who dribbles down centre of floor. 2 and 4 go down outside of floor, drawing out guards *A* and *B*, if 1 is blocked by *A* or *B*.

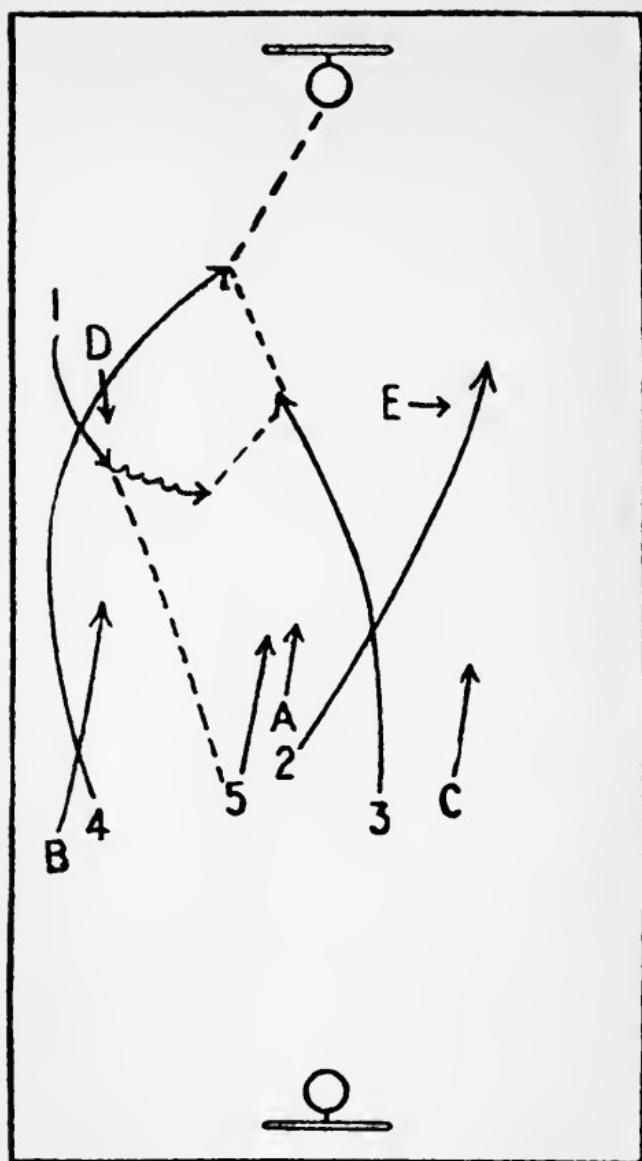


DIAGRAM 50

5 gets ball and passes to 1 at side and centre of floor. 5 may pass to 2. 1 dribbles and passes to 3, who in turn passes to 4. The crisscross pass in combination with the dribble is illustrated here. 2 is drawing out guard E who otherwise might tackle 3. If E guards 3, 1 may pass to 2.

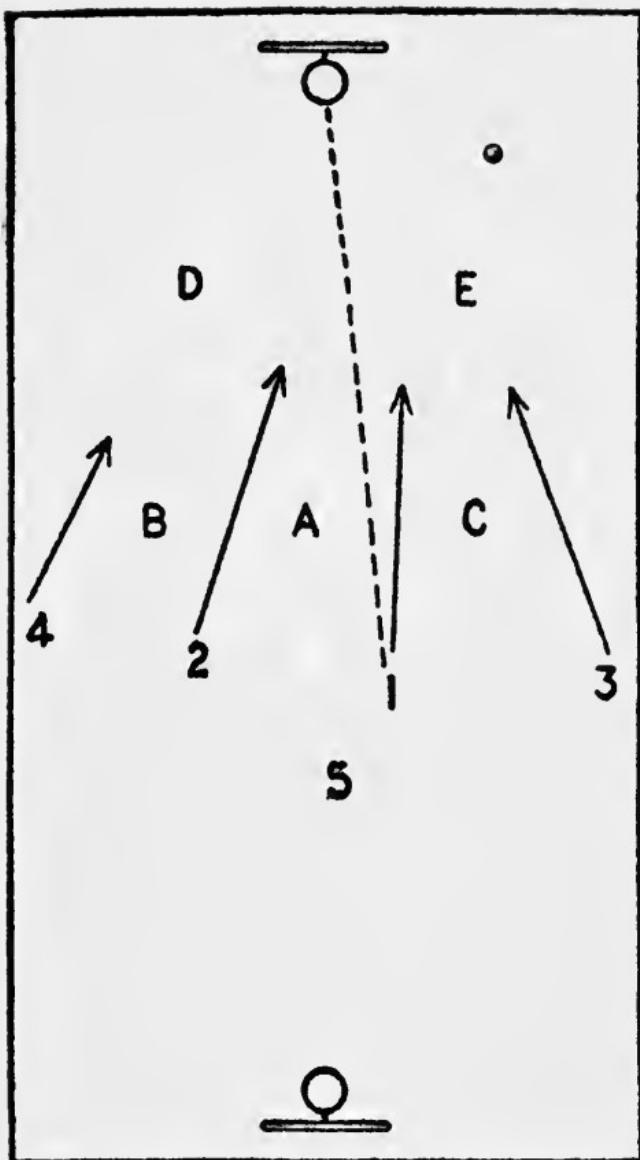


DIAGRAM 51

1 tries for goal from middle of floor. 4, 2, and 3 rush in to get ball. This is the long-shot method of offense against the five-man defense.

## BASKET BALL

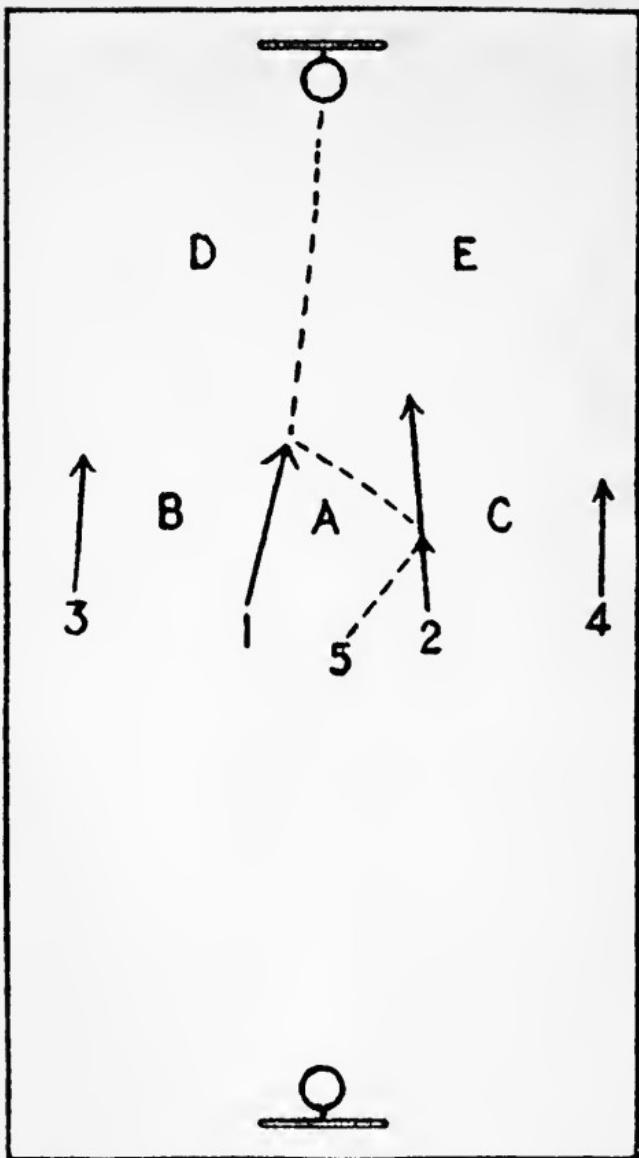


DIAGRAM 52

5 has ball. He feints to pass to 1, but makes pass to 2, who goes in between **A** and **C**. 3 and 4 go down sides. If **B** and **C** play 3 and 4, 2 either passes to 1 or dribbles in and shoots. If **D** and **E** come in to interfere with play, pass is made to 3 or 4, who continue down outside of court.

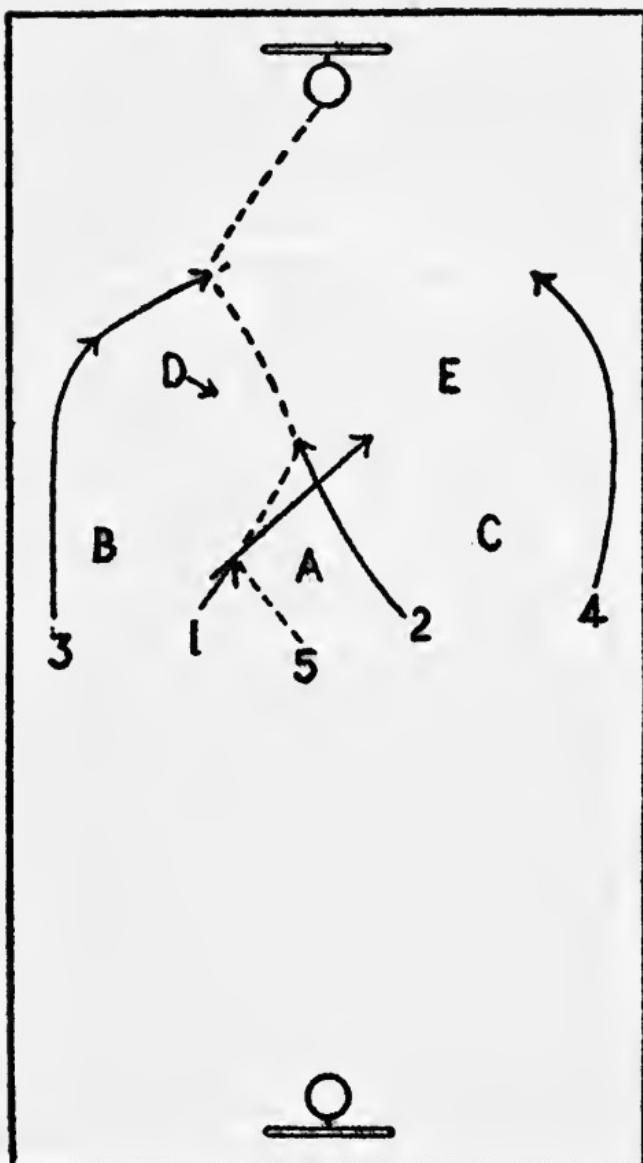


DIAGRAM 53

5 passes to 1, who gives ball to 2. 2 dribbles in and shoots, or if blocked by D, passes to 3.

## BASKET BALL

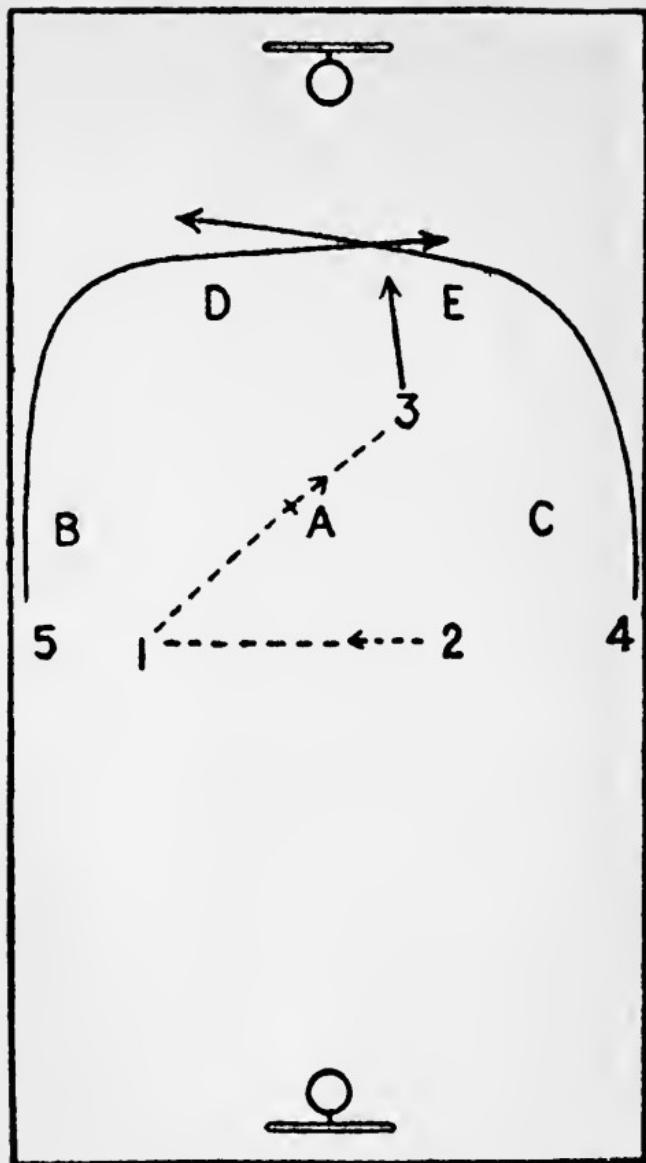


DIAGRAM 64

3 takes position between lines of defense as soon as it is apparent opponents have taken position. 5 and 4 go down sides and cross over. 2 feints shot and tries to draw A out of position. He then passes across to 1. 1 bounce passes to 3. 3 may pass to 4 or 5, or if they are covered by D and E he may dribble in and shoot, or he may pass to 1 or 2, who may come in.

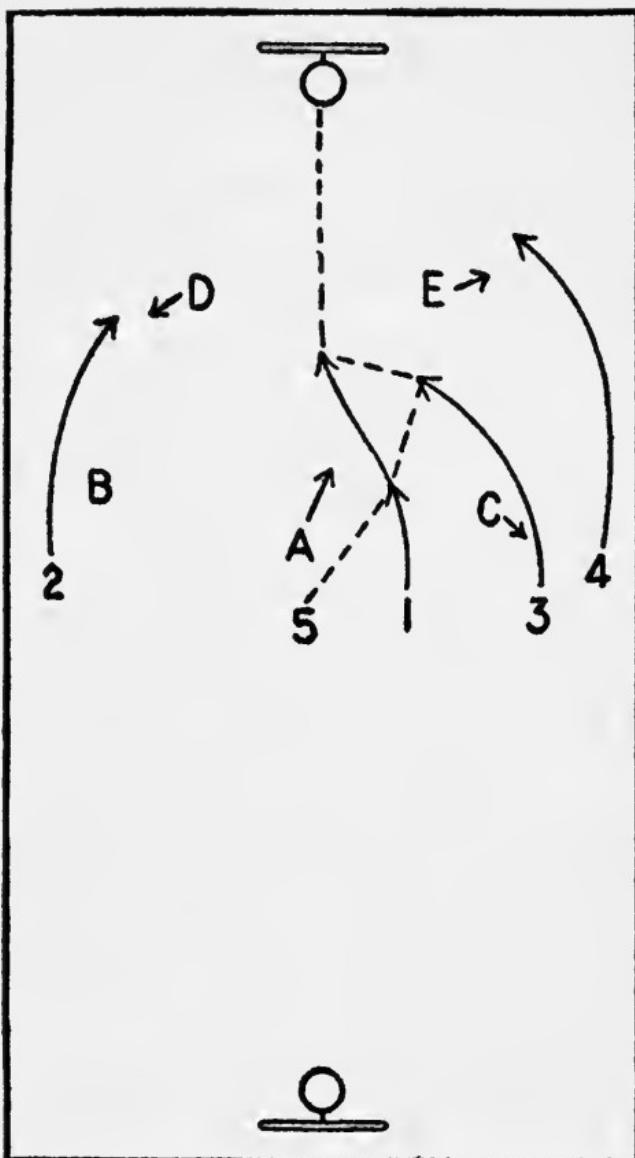


DIAGRAM 55

3 and 4 go in on right side of court. 5 passes to 1, who with 3 works the ball down to within shooting distance of the goal. The danger here is that C will force 3 outside.

## BASKET BALL

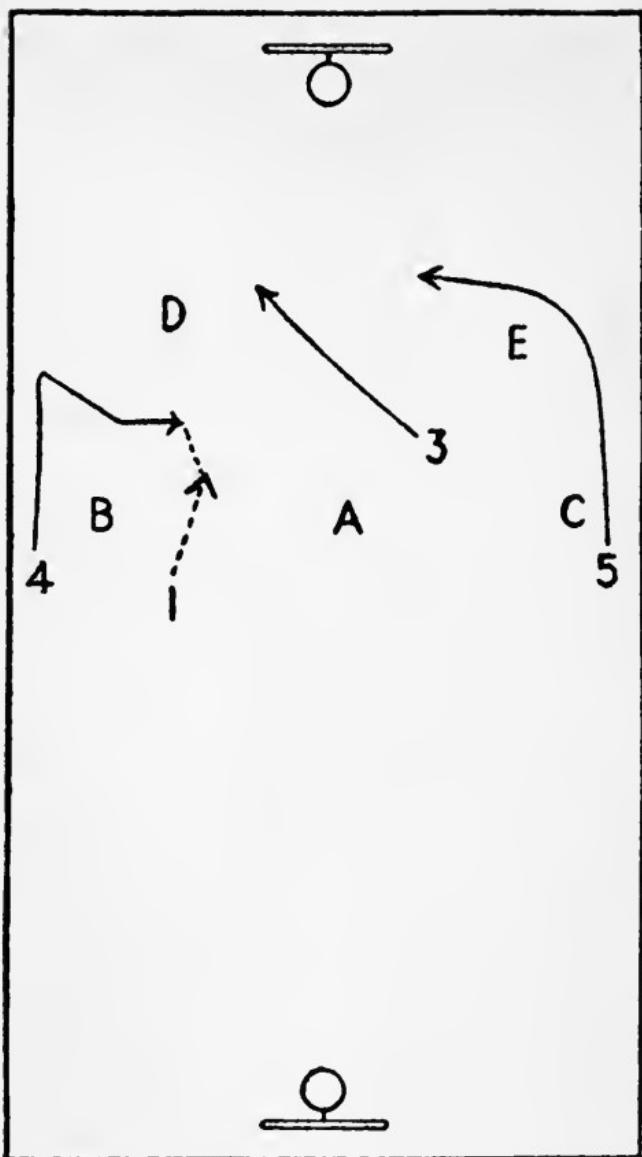


DIAGRAM 56

3 takes position as in 54. 4 goes down and back to position between lines of defense. 1 bounce passes to 4 or 3. If D covers 4, 1 passes to 3. 5 goes down opposite side. 1 may make preliminary feint of shot from middle of floor to draw A and B out of position.

## CHAPTER VII

### DEFENSE

The subject of defense in basket ball at once brings up the mooted question: "Is it better to play the man or the ball?" As we have said before, it is not our intention to be too dogmatic in this work, for opinions vary, and successful coaches use both methods; yet it would seem that, after all, basket ball is played with a ball, and there can be no scoring unless the ball is secured. A side cannot win by simply playing the man. The ball must be intercepted. It should follow, then, that the better defense would be to play the ball and then immediately start an offensive. For the axiom is as old as time that "the best defense is a strong offense." And again, as a wit once said: "You can't throw the man into the basket." He is a poor player who, facing the man he is expected to guard, is hit on the back of the head with the ball. The successful player will watch both the man he is guarding and the ball, and when an opponent starts to receive a pass, by agility or craft he rushes in and himself intercepts it. The team which is quick on the

tap-off need not worry about defense. Defense is only secondary. Offense is the primary play. But as only one team can be on the offensive at one time, it naturally follows that there must be defensive play; and so we must consider how best this defense may be accomplished.

In general there are three standard forms—the tandem guard, the twin guard, and the five man. The first two are more or less set formations, the last a formation rapidly taken when a side loses the ball. All have advantages, all have drawbacks, and none can prevent the long, accurate shot from scoring. That is one of the happy uncertainties of basket ball. One side may be ahead by a point, and in the last second of play the other may score a basket by a shot taken from the far end of the floor. No possible defense is of value here.

Against teams who persistently keep a forward down under the opponents' basket, the tandem method of play is best. In this formation a "back" guard stays back to watch the opponent in his territory, the second or "floor" guard comes up to or past the middle of the floor and acts as secondary offense, backing up the attacking line of centre and two forwards. He is the first line of defense if the play comes back toward his own goal. This method may be used to ad-



FIG. 15. FOUL SHOOTING.—PAGE 28.  
Chest Shot.



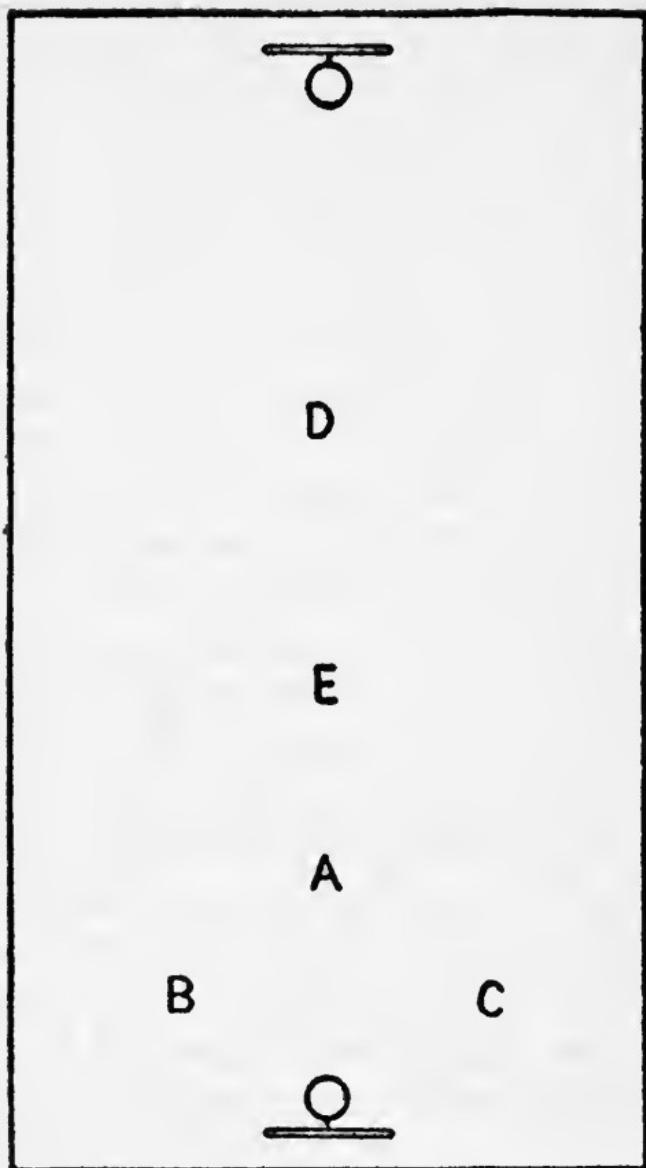


DIAGRAM 57

*D* and *E* represent approximate positions of guards in tandem-guard defense.

vantage even though there be no forward down underneath the basket. In this case the back guard may come up as far as the centre of the floor, and the floor guard as far as the opponents' foul circle. This back guard, however, must never allow an opposing player to come between himself and the goal. He must also be something of a general, because he alone is facing the field of play, and his quick eye and snap judgment may create and meet many situations which his busier team-mates are not in a position to see. Perhaps his most trying situation is the one where, while near his own goal, he has to determine which of two men rushing down the floor he is to play in order to prevent a possible score. If he plays the man who has the ball, that man may pass to his team-mate, who will have a free shot. If he covers the man who has not the ball, the other man will dribble in for an easy basket. Possibly his only play is to feint an attack upon the man with the ball, force him to pass, and then rush over to the other. But at best his chance of preventing a shot is slight, and he cannot be blamed if in this situation he sticks to one man and trusts to the speed of the floor guard or one of his other team-mates to come to his aid. This is the principal weakness of having only one man back.

On the whole, though, this tandem formation

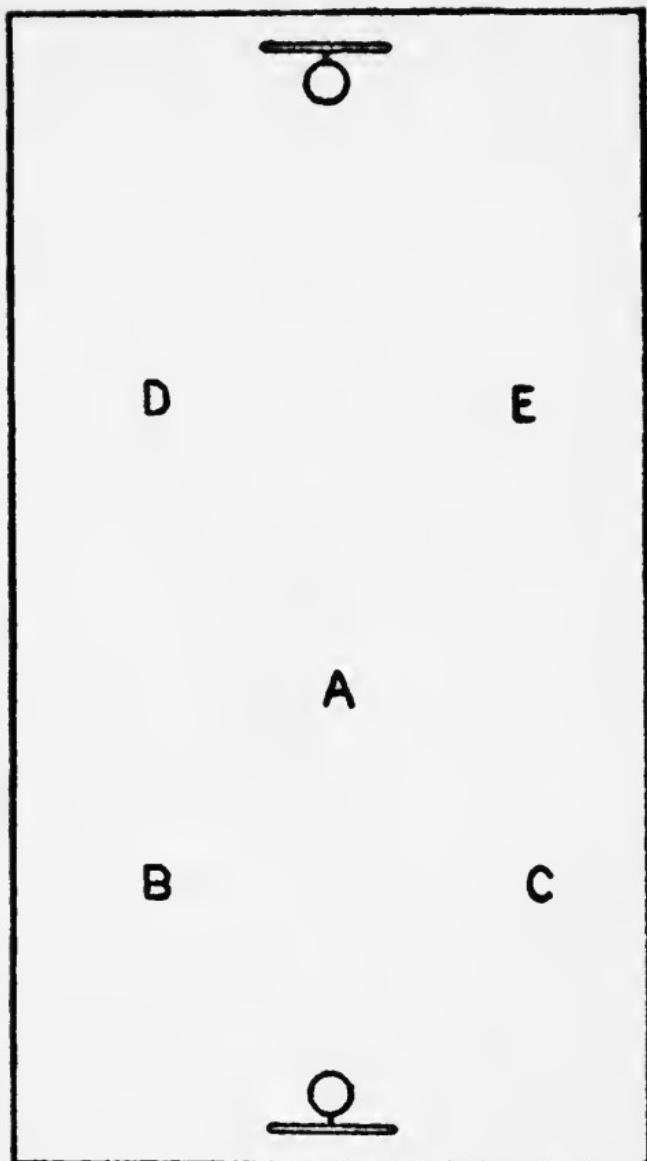


DIAGRAM 58

D and E represent approximate positions of guards in twin-guard defense.

permits of sending four men into the attack, and is a good defense to assume when the ball is put in play at centre, the two forwards with the centre as the front line, the floor guard to back them up, and the back guard as field general to direct the play.

The twin-guard style of play is an excellent defensive system, but has the disadvantage of holding two men out of the attack if they act strictly as guards. Team after team has used this system to great advantage. The two guards are posted on either side of the court between the centre circle and their own goal. Here they wait, and when the attack comes are in good position to break it up. They are stationed where they can intercept most of the passes made down toward their basket. Only three or more men can go through them, and by the time their opponents have started an offense the guards' teammates have rallied to their support. When the ball is in the possession of their own team they come farther up the floor. To a certain extent this is a modified form of the five-man defense, for when the ball passes to the opponents again, the two guards immediately drop back near their own goal, and the three forward players fall back with them.

The five-man defense is formed in either of two

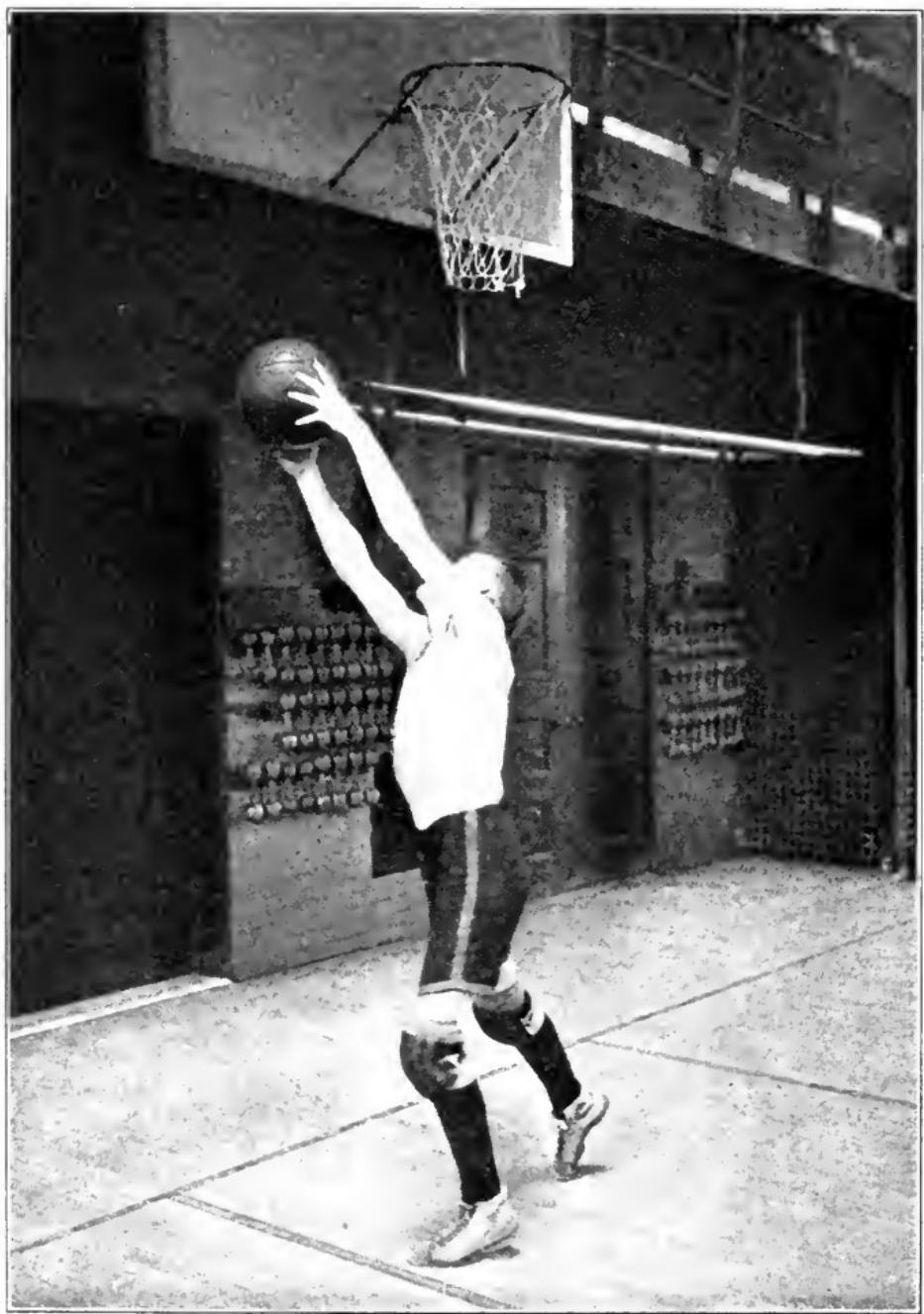


FIG. 16. CROSS-BODY SHOT BACK OVERHEAD.—PAGE 29.



ways: having all five men line up across the middle of the floor to wait for their opponents to break through, or to have three men on the front line and two others just behind. The formation depends upon the fact that while the opponents are down in their end of the floor they may play with the ball as long as they wish, yet be unable to score. It has its drawbacks and merits. In the former it is evident that it is purely defensive, and takes every man on the team into it. Therefore, it would be used only by teams which are ahead. A team behind in the score would have to make an attempt to intercept the ball in order to win, or their opponents would stall by passing the ball in their own half of the court. If the opponents were ahead there would be no point in their taking the risk of losing the ball by trying to break through. Then again the play is invalidated if by a long shot from beyond the centre of the floor a basket is made, and this, by the way, is one means of breaking through it. It must be formed instantly or it is of no value. If the offensive gets under way and past it on the floor, it is no longer a five-man defense; it becomes a race, with the advantage in favor of the offense. Truly it has its weakness, but, on the other hand, it is so good that practically all teams use it, and when properly formed it requires all the skill and

strategy a team can command to break through. First, it permits of five men on the offense, and each man knows that if the ball passes to the other side he immediately must go on defense and draw back to his station in the centre of the floor before the other team can get there. Second, it uses five men on defense, and is impregnable against any system which sends only three or four men down on attack, and even those teams which send five find it almost impossible to penetrate it. Third, if the team is ahead it permits of a breathing spell, and a recuperative moment while the opponents are manoeuvring for position.

There are two ways of playing this defense: the position style and the man-to-man. Generally the position style is played with three men on the front line and two directly behind, as in the diagram.

The object of each player is to guard a respective section of the floor, and he must not be drawn out of this position by any apparently tempting chance to secure the ball. If the diagrams under offensive play are studied it will be seen what a difficult matter it is to get through this formation for a close shot. If the attacker dribbles down the side-lines it is the purpose of the defense to force him out of bounds. If the play comes down the centre of the floor, successfully eluding the first

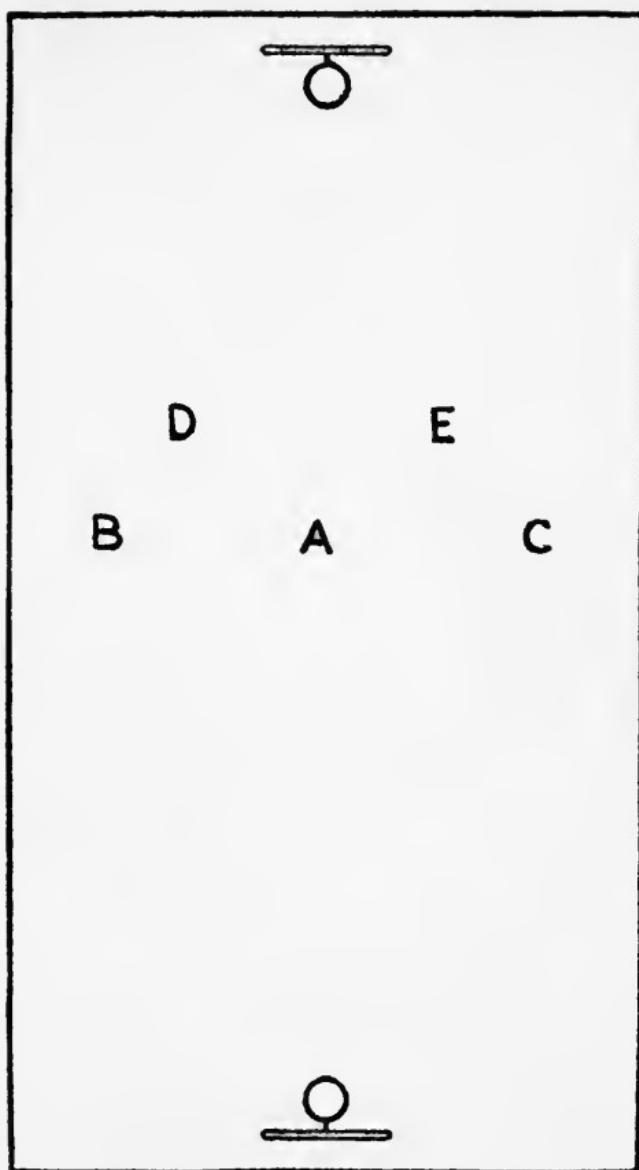


DIAGRAM 59

Five-man defense, position style of play.

line, it is met by two defensive men, who may smother it before a pass or a shot can be made. The three forward players may be brought back to assist the second line if several of the attacking team get through, or they may remain in their position, ready to receive the ball from the back guards and to start their own offensive down the floor. In case the attackers take a long shot for goal the two back guards may be expected to receive the ball from the backboard if the shot be missed. The three forwards, waiting to receive it, start their own offense. All five men may now get into the attack.

In the man-to-man type of defense, the five defensive players line up across the floor between the foul circle and centre, and each man picks his opponent as he comes through. This is the system to use when each player on the team is responsible for his own man. When a man's opponent comes down the opposite side of the court, however, the drawback in this style of defense is evident. The defensive player must try to out-guess his opponent and manœuvre for position so as to be opposite to him as he comes through. A zigzag attack is very confusing when this method is used.

Considering the five-man defense, however, as a distinct style of play, we may safely say that



FIG. 17. PUT OR PLACED SHOT. -PAGE 31.  
Coming in from Right.



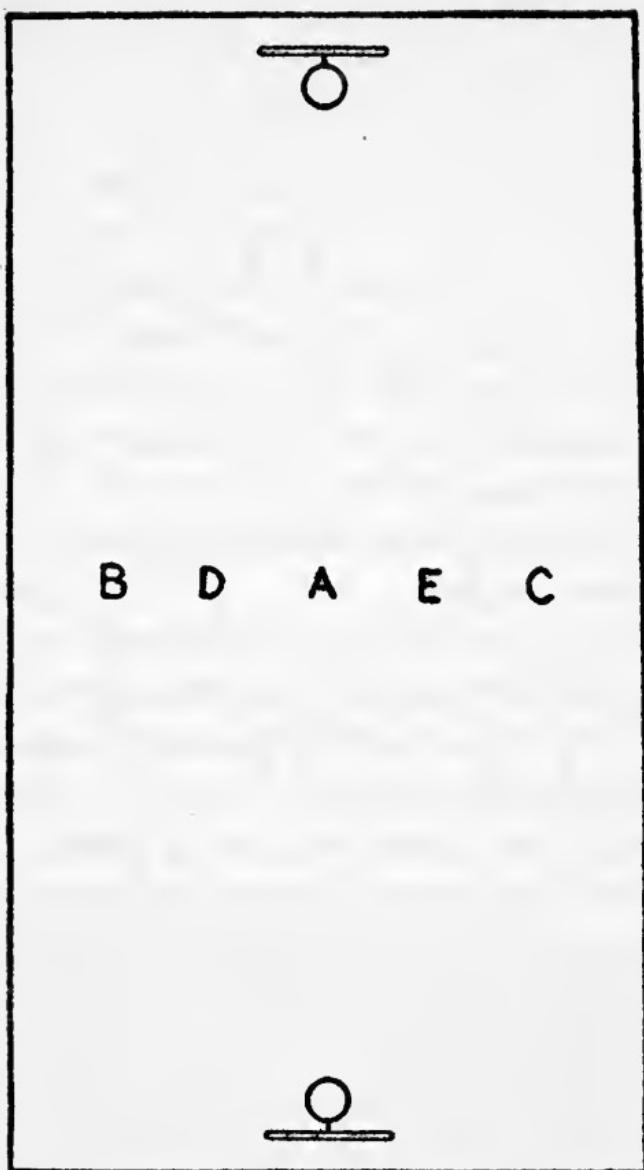


DIAGRAM 60

Five-man defense, man-to-man type of play.

in the opinion of most of the leading coaches of the country it offers more advantages than any other system, and is now universally in use in scholastic and collegiate basket ball. Fundamentally it is sound, because five men scattered all over the floor cannot be expected to form so solid or united a defense as five men in a body in front of their goal. But whatever defense is used must depend on the offense that opposes it. The size of the court, the height of the ceiling, the style of the opponents' play, and their skill and speed may all call for an adoption of a standard form or a modification or blending of all three forms. Judgment on the part of the coach, skill and experience on the part of the player, alertness in diagnosing the adversary's attack and speed in meeting it, and the ever-readiness to shift to the offense are the salient features of successful defensive play.

*PART III*



## CHAPTER VIII

### THE HYGIENE OF TRAINING

Training for participation in athletics is the process by which the ability of the individual or team is increased to the maximum degree of efficiency. The object is to raise the standard of performance and to meet the demands on the body made by some particular sport, and involves both mental and physical measures. When properly carried out, training results in an improvement of all the functions of the body. Many of the injuries and much of the harm resulting from athletics could be prevented if adequate supervision and training were provided for the teams.

It is exceedingly important that the player train faithfully before and during the basket-ball season. Even after the season is over he should not stop work altogether but continue to take some exercise. This is true after any sport that requires intensive training. As stated before, basket ball is a game that requires a maximum of speed, skill, and endurance, and progress in the ability to play the game is made by increasing these qualities. There is no game that requires

a greater degree of fitness than basket ball, and there are but few sports where the results of little or no training are so noticeable. To play his best game the player must be in good condition. There is no exception to this. The man who breaks training can no more play a first-class game than a runner who is out of condition can run a quarter mile in record time, and we know the latter is impossible. In basket ball the player expends a great deal of energy in a very short time. This means a heavy demand upon the body's reserve power, and especially is this true of the circulatory and respiratory systems. The athlete who, on account of lack of training or for any other reason, such as a bad heart, is not able to meet this increased demand on the body, soon gets out of breath and has either to drop out or become a handicap to his team.

### MEDICAL EXAMINATION

It should be the custom of every coach, as well as a strict rule of every school, that before the applicant for the team is allowed to begin practice at the beginning of the season he should have a thorough medical examination. It is not sufficient to give the benefits of this procedure to just the eight or ten men that make the regular team; every candidate for the team should be examined.

The reason for taking this precaution with basketball players is obvious, although it is surprising how often it is not done, and it is pathetic how often harm comes from neglecting it. It is only by an examination that those in charge of the team can tell whether or not the players are physically sound and able to indulge in this strenuous sport. Those in charge of adolescent boys should especially be concerned, as there is great danger of injury to the heart at this age. The game is not worth the chance taken in neglecting this important matter. The coach and the school authorities should not forget the responsibility they have for the students in their charge. It often takes a long time for an athletic sport to recover from a blow it has received in the minds of the parents when something serious happens to a man, not to speak of the more important consideration of the injury, and perhaps the death, of the player. Besides being of vital importance to the player, the examination may be of considerable value to the coach. It gives him an idea of the physical condition of the players and how much he may expect from each one. He learns from the examination the weaknesses and limitations that certain men have. If a coach knew, as a result of the examination, that a player had impaired vision it might save him considerable

time and energy in trying to teach that man how to shoot.

Whenever it is possible the examination should be made by a physician. If a physician is not available and the coach is forced to assume that responsibility, he should at least try to find out the condition of the men's hearts. As a result of some previous experience or an examination either by the school or family physician, the boy with a bad heart may be able to inform the coach of this condition. He may do quite the contrary, however, and try to conceal the facts. A very good question to ask the player is whether or not he gets out of breath easily. He should be asked if he is able to run up a flight of stairs without experiencing any difficulty in breathing. If there is a history of any such trouble, it probably means a bad heart, as getting out of breath is not a question of weak lungs, as is commonly supposed, but rather that of a weak heart.

There have been several tests worked out to determine the efficiency of the heart. A simple test that may be used to advantage is the one that has been devised by Dr. W. L. Foster. This test makes use of the standing pulse rate, the rate immediately after running in place for fifteen seconds at the rate of one hundred and eighty steps per minute, and the rate forty-five seconds after

the work has ceased. In making the test the standing pulse rate is taken and the rate per minute recorded. If the player is nervous the rate may be a little above normal, but it should not be very high. Doctor Foster found the average rate of twenty-five hundred boys between the ages of fourteen and eighteen to be ninety-seven per minute. The normal adult pulse rate varies, but it should not be much above ninety. The average is seventy-two beats per minute. After the standing pulse rate is taken and recorded, the boy runs in place for exactly fifteen seconds at the rate of one hundred and eighty steps per minute. Immediately after he stops running the pulse is again taken and recorded. As little time as possible should be consumed in determining the rate after the exercise, as the record should be that of the pulse immediately after running, and not after he has rested several seconds. The rate should not increase more than twenty to forty beats per minute as a result of the exercise. If there is a marked increase it is an unfavorable sign. After running for the fifteen seconds the boy stands at ease for forty-five seconds, when the pulse is taken and recorded for the third time. If the heart is in good condition the rate will come back to normal or close to the starting rate after this short period of rest. It may drop below normal. If

the rate stays high it means poor power of recuperation. If the standing pulse rate while the individual is resting is high, if there is a marked increase after exercise, or if the rate fails to come down after the forty-five seconds of rest, the player should not be allowed to play until the results have been checked up by a physician.

### GENERAL CONSIDERATIONS

In training a team for any form of athletics the coach is interested in the measures which have to do with the general all-around condition of the players as well as the special procedures which are followed in order to prepare the men for some particular sport or event. The former is of special interest in basket ball because of the physical endurance required by the game. We shall first discuss some of the more important aspects of personal or individual hygiene that are necessary not only to put the men in the best physical condition but also essential in keeping them where they can be of greatest service to the team.

Before much can be accomplished in the way of training it is necessary to have a live spirit of enthusiasm toward the team and the school or organization which the players represent. This can come only from a love for the sport and a desire on the part of the athlete to give his best

efforts to the team. The coach should try to develop such a spirit among the men that they will want to train and enjoy doing the things that are best for all concerned. The most successful coaches are those who are able to have their teams go about their work in a businesslike way, and as a rule the most valuable athletes take the game more or less seriously. "As a man thinketh in his heart, so is he."

The question of exercise, which is one of the most important requisites of good health, will be taken up later under special considerations of training.

### SLEEP

Sleep is of prime importance to any athlete. The growing boy needs more than the mature man, and the latter should have at least eight hours a day. "It winds up the physical clock." During the day the processes that tear down the body are greater than the ones that build it up, and as a result there is a loss in the available food-supply and an accumulation of fatigue products. While sleeping, this process is just reversed. The loss in energy and tissue is made up, the kidneys and other organs of elimination are able to remove the accumulated waste material, and the organism is put in condition for the next day's

work. Some people seem able to get along with less sleep than others, and there are those who are not, as far as we can tell, affected very much by having their sleep cut short a few hours for one or two nights. There is a great difference sometimes, however, between what seems to be and what really is true. Moreover, we should follow the rule that fits the average rather than the exceptional case. The loss of sleep for a single night means a lessened efficiency, and in some cases this is very marked. When continued over any very great length of time there is a gradual expenditure of the body's reserve power and accumulation of toxins over and above that of the day before. Such a process in the athlete shows itself in lack of enthusiasm for the game and inefficient as well as indifferent playing. There may be loss of weight, the face loses its natural color, and the bright look of the eyes is replaced by a dull, sleepy appearance. These conditions are commonly seen in players who during the basket-ball season spend several nights a week on the dance floor or some other place of amusement. Meeting numerous social obligations and playing a good game of basket ball are incompatible and cannot go together. To get the greatest value from sleep it should be regular and undisturbed. One should develop the habit of going to bed at a certain

hour and getting up at a fixed time. In most cases, if this rule is followed, the person will be able to go to sleep immediately upon going to bed and sleep through until morning. If possible he should sleep in a very quiet place. Even though a noise may not be sufficient to awaken the sleeper, he will unconsciously be stimulated and affected by it. One feels more refreshed if he sleeps out-of-doors. Even though all the windows are open and there is good ventilation, as should always be the case when compelled to sleep in a room, that same restful feeling is not experienced that exists when sleeping out-of-doors.

### VENTILATION

Modern conditions of life make it necessary for us to spend much of our life indoors, a fact which explains a good deal of our ill health and disease. This handicap to health can be lessened considerably, however, by giving our attention to some of the factors which are entirely within our control. The discomfort which one experiences as a result of breathing "bad air" results from too high temperature, too much moisture or too little, and a lack of motion in the air—physical conditions which can be modified and changed by proper ventilation. The temperature should be about 68 degrees Fahrenheit. It should not be above

that. Heat is depressing. The same is true of air that is too humid, or, on the other hand, too dry. There should always be some movement of the air. The temperature in a gymnasium where basket ball is being played should not be any higher than is absolutely necessary for the comfort of the spectators. The men will play a better game if it is not too hot. Smoking during the game should be absolutely forbidden.

### MENTAL CONDITIONS

There is a very definite relation between wholesome mental states and efficiency. If we are optimists and in a pleasant state of mind we are able to do more and better work than when we are downhearted and looking on the dark side of things. Worry not only lowers our efficiency but it may even cause ill health. "It is not work that kills a man. It is worry." The coach should prevent, if possible, any cause for worry among the players. It will cause them to fall off in their playing more than anything else. There are many things that athletes worry about. They worry over their studies, examinations, over making the team, over some particular game, and many other things connected with the sport. It is a common testimony of coaches that their teams lost because the men were afraid of being beaten,

and consequently did not play their best game. Worry lowers the morale, confidence raises it; worry lessens efficiency, confidence increases it. There is such a thing as being too confident, however. When players or teams become overconfident and grow careless, the condition is nearly as bad as when they are worried. There is a great deal in the psychology of basket ball and it should be given considerable attention. For the team to take the proper mental attitude toward the game it must be in a happy and contented state of mind. The coach and management can do much to bring this about by carefully attending to the needs of the players, seeing that they have good equipment, having interesting practices, arranging satisfactory schedules, giving the men a good time on their trips, properly advertising the games, and doing everything that is practical to make it worth while for the players to make any necessary sacrifice and to give their best to the team.

## DIET

Aside from exercise the question that has received most attention in training for athletic sports has been the diet of the players. While it is true that diet is a very important factor, yet it must be admitted that there have been numerous fallacies and many absurd and foolish ideas

held regarding it. The same principles that should govern the selection and eating of food for the average normal person should guide the basket-ball player in matters relating to diet. It is fortunate for most teams that this is so, as circumstances often demand that the players eat the same kind of food as the other members of the family where they happen to be living or boarding. While experience has shown that training tables are unnecessary to get best results, yet it is essential that we understand and observe certain fundamental rules regarding food and digestion.

In order for the body to function normally it is necessary that it be furnished with food of the proper kind and amount. We shall first take up the qualitative requirements, then discuss the amount of food that we need, and conclude by mentioning a few factors other than diet that have to do with digestion.

Food functions in the body by supplying energy and heat, by building and repairing tissues, and by stimulating and making possible the various processes and activities of the body. Energy and heat are furnished by the carbohydrates and fats. Carbohydrates include starches, sugars, and gums, and form the principal element in vegetables. Fats have their main source in butter, cream, oil,

nuts, and some meats. Protein is used to build up new tissues and repair old ones. Certain inorganic substances also aid in this work. Practically all foods contain some protein, but it is found chiefly in lean meats, eggs, milk and cheese, nuts, peas, beans and lentils. Water, certain mineral salts and vitamins, or "protective substances," are also necessary to keep the body functioning properly.

There should be a certain variety of food not only for each meal but also for each day and week. There are many good foods which we grow tired of if they are served too often. A variety of food keeps the appetite keen, and a good appetite is a great blessing and an aid to digestion.

The diet of the athlete should contain but few, if any, of the accessory articles of diet, such as flavors, stimulants, and the like. While these things are used they are not necessary, and may be even harmful to the health. Spices and condiments, such as pepper, catsup, and mustard may appeal to the sense of taste and smell, but they act as a local salivary and gastric stimulant. They may do harm by destroying the taste for simple and wholesome foods and by irritating the gastrointestinal tract. Other things that should be excluded from the player's diet are

fried foods, highly seasoned dishes, pastries, or anything else that he has learned by experience does not agree with him. Appetites differ, and our ability to digest food is not always the same. Some people have idiosyncrasies toward certain foods. They cannot eat a particular article of diet, although it may be easily digested by the average person. Experience should play a large part in the choice of food; it should not be the only thing considered, however, as there are some who enjoy good digestion in spite of what they eat rather than on account of it. There is a common fallacy that it is harmful to mix or eat certain foods at the same meal that some other particular food is eaten. For instance, to drink milk with cherries is thought to cause indigestion. There is probably very little danger from such procedure, especially if all of the foods are good. Simply putting them together will not cause any grave disaster. Another mistaken idea commonly found among athletes is that milk should be used very sparingly. Milk is one of the best and most valuable foods for the average person that we have, and simply being an athlete does not mean that a man becomes different from other people in this respect. The claims that milk "cuts the wind," "causes constipation," and "makes one sleepy" are fallacious. It is understood, of course,

that the rest of the diet should be well proportioned in regard to its quality and amount. The high food value of milk lies in the fact that it is easily digested, its constituents are well proportioned, and it contains valuable growth-promoting substances.

There has been a great deal said about the use of tea and coffee. "These are substances that are usually employed as makeshifts in an effort to cheat nature." "Coffee is essentially a drug and in itself has no nourishing principle." It does put work upon the body in order to throw it off, but gives nothing in return. Tea and coffee hinder the action of the saliva, and if taken in excess may impede digestion. Their action is due to caffeine and tannic acid. The most important action of caffeine is upon the nervous system, where it acts as a stimulant. If these drugs are taken in moderation by a healthy person they may not do any harm, but the athlete should not need the stimulation which results from their use. If he indulges at all it should be very moderately. We recommend milk as a substitute. The only value that coffee has as a food is that it serves for a vehicle for milk and sugar.

Now that this country is enjoying the great blessing of national prohibition the question of

alcohol is not so important as formerly. Alcohol is not a stimulant. It is a narcotic and has a detrimental effect upon all the activities of the body.

By experience and experiment we have learned that the body gets along best if it has so much food and no more. When carbohydrates and fats are taken in quantities greater than we need, the excess amount is stored in the body as fat. It furnishes so much weight for us to carry around. The excess protein is not stored but is thrown off as waste. This means extra work for the excretory organs. The end products of the carbohydrates and fats are very simple and easily eliminated, but with protein they are very complex and are gotten rid of with difficulty. Their elimination sometimes causes injury to the kidneys and other organs.

The ordinary college athlete needs between three and four thousand calories per day. Carbohydrates furnish fuel for energy, and the harder the work the more is needed. They should furnish between sixty and seventy per cent of the total heat units. The amount furnished by fats should be moderate, about twenty-five per cent, and these should come mostly from butter-fat as found in butter, milk, and cheese. From ten to fifteen per cent should come from protein.

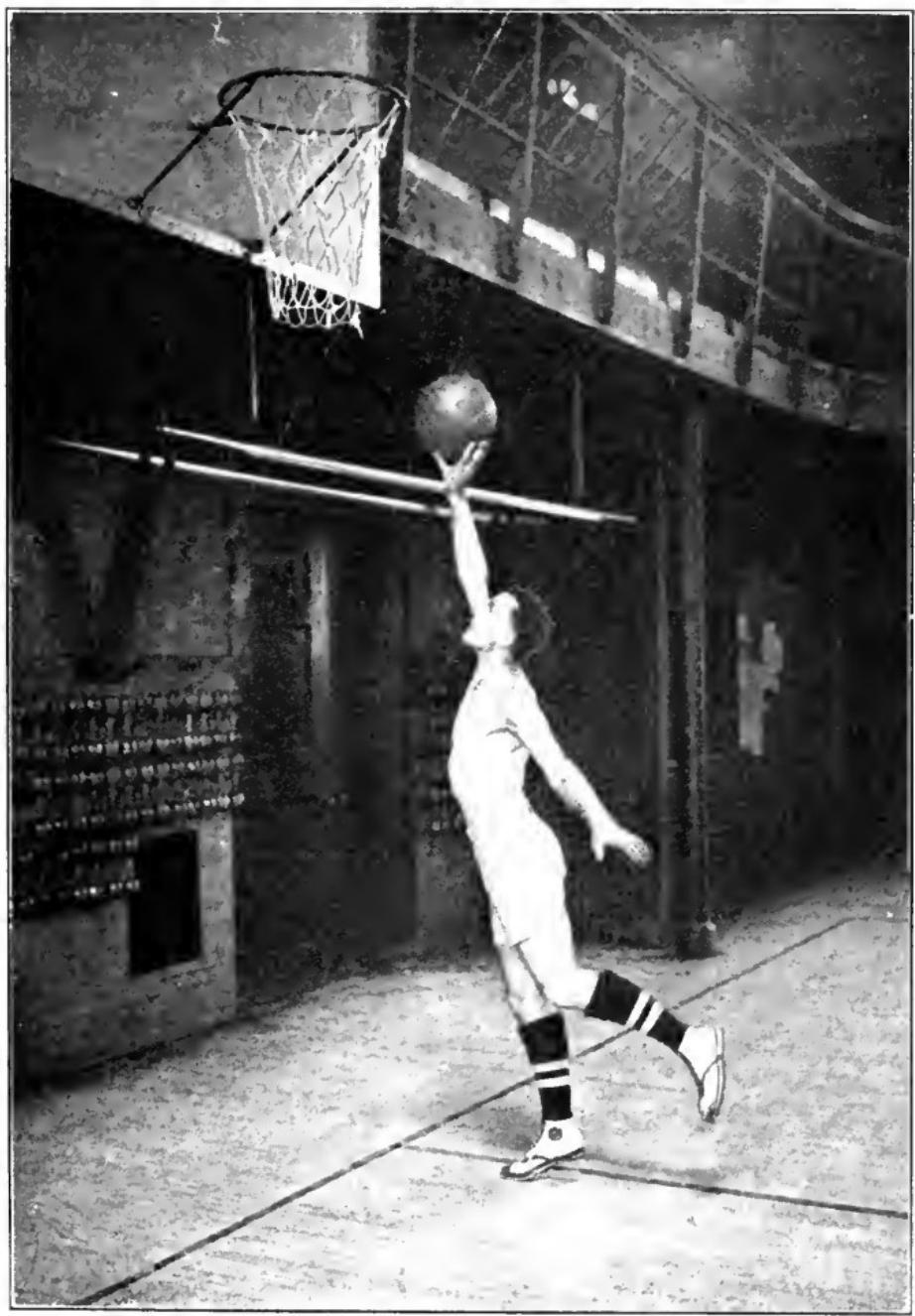


FIG. 18. PUT OR PLACED SHOT.—PAGE 31.  
Coming in from Front.



At the present time most of the leading authorities on this subject favor a low protein diet. Most people, including athletes, eat too much meat. As stated above, this food is one of the chief sources of protein. It is not necessary to have meat two or three times a day. Once a day is sufficient. It may be that it would be better if meat were served but four or five times a week. It used to be thought that it was meat that gave strength to the body, but quite the contrary has been shown to be true. Fisher and Fisk, in their book "*How to Live*," in speaking of experiments made to determine this question, say: "The results would indicate that the users of the low protein and non-flesh dietaries have far greater endurance than those who are accustomed to the ordinary American diet." We cannot conclude from our present knowledge in food matters that the athlete needs no meat, but we can be reasonably sure of getting better results from a low protein diet than when excessive amounts are eaten.

It is a common practice among athletes to overeat. Gluttony may easily become a vice of the basket-ball player as well as of the idle and lazy. "Overeating is about as common as eating." Three fairly good-sized meals a day is all a player needs. Efficiency and pleasure in eating as well

as in anything else lies in moderation and not in excess.

Carbohydrates when eaten in excess cause fermentation, indigestion, and constipation. Fruits, besides being splendid food, are also good for this condition. Every one should drink plenty of water. Many athletes do not drink enough, especially between meals. A glass or two during meals will do no harm. It does not unduly dilute the digestive juices, as is sometimes thought, but rather is an aid to digestion. It should not be used to wash the food down. The athlete needs from five to ten glasses a day. Ice-water should be avoided, although cooled water may be drunk with safety. It is not a good thing to eat any food that is very hot or very cold.

Regularity is one of the most important rules of training. The athlete's meals, as well as his sleep and exercise, should be regular. The habit of eating between meals is bad. It causes over-eating and often leads to impaired digestion. Some players have a desire to eat something before going to bed. If the food is simple and not excessive in amount, it will probably do no harm providing there is a need for the same, but it should not become a habit. A man sleeps and rests better if the stomach is empty when he goes

to bed. Plenty of time should be taken to eat, as the evils of "bolting" food are many. Meals are enjoyed more when eaten slowly. Moreover, when the food is not chewed and masticated thoroughly one is apt to eat more, digestion is not so complete, and there is a failure to get the greatest possible benefit from the food. Food should be chewed until it is thoroughly mixed with the saliva and swallowing takes place without thinking about it.

Heavy meals should come when they can be followed by physical and mental composure. For the ordinary student, breakfast should be moderate, lunch light, and dinner the big meal of the day. The meals would be something as follows: for breakfast, fruit, cereal, eggs or meat or potatoes, toast or bread, and milk; for lunch, eggs, potatoes or another vegetable, bread, cooked fruit, and milk; for dinner, soup, meat, potatoes, a couple of green vegetables or salad, light dessert, and milk or tea. Whether or not the athlete can follow the above plan depends upon the time of day the game or practice is held. The meal immediately preceding or following a hard work-out should always be light. It is never good to eat a big meal when one is very tired. Excessive perspiration impedes the secretion of the gastric juice, and the fatigue products resulting from the

exercise have a depressing effect upon the mind and cause impaired digestion. The nutrition is affected by mental and moral states or by any kind of nervous irritation. A contented mind and joyous nature go with a good digestion, while remorse, discontent, and so on are apt to be associated with poor digestion.

Many players are affected by nervousness just before a game and suffer from impaired digestion as a result. To prevent this condition an effort should be made to keep them as optimistic as possible and their minds on something other than the game. The coaching should be done some time before the day of the game. The same principle holds true in regard to diet. The men should have taken such care of themselves and should be in such good condition that nothing more than the ordinary precaution regarding diet will be necessary. Breakfast should be about the same as usual, consisting of fruit, cereal, meat or eggs, bread or toast, and milk. If this is not sufficient a baked potato may be added. With some it would be better to omit the meat or eggs. If the game is in the afternoon it is best to have a light lunch. Soup, eggs, bread, and tea or milk is sufficient. If the contest is not until the evening, lunch should be heavier than usual and consist of eggs or a small portion of meat, one or

two vegetables, including potatoes, bread, milk, and a light dessert. Supper should be light.

Most ill health and disease are caused by toxic substances which are formed either within the body or are taken in the form of drugs. It is necessary, therefore, in order that man be able to enjoy good health, that there be a regular and orderly elimination of the waste products, and also the prevention as far as possible of the entrance of any toxic substances from the outside.

The work of removing the poisonous material from the body is done by the lungs, kidneys, skin, and intestines. The amount of water needed each day has been mentioned. The kidneys are exceedingly important organs of elimination, and their proper functioning is dependent upon a good supply of water.

Much of the waste material of the body is thrown off by the intestines. This removal should be prompt and regular. Any delay in the action of the bowels is accompanied by the formation of toxic substances which are absorbed into the body, causing headache and other symptoms of ill health. Sometimes the results of this condition are very serious. The most efficient treatment of constipation consists of removing and adjusting the causative factors. Of very great impor-

tance is the matter of establishing a regular habit of having the bowels move at a certain time every day. A common cause of constipation is a lack of the proper kind and amount of physical exercise, resulting in bad posture, a lowered muscular tone, and a poor general resistance. While this may not be of great interest to the athlete who indulges in strenuous physical activity, yet it should be mentioned in passing on account of its special significance to the average person. The exercises that are of greatest value in stimulating the action of the bowels are those that bring into play the muscles of the trunk and especially those of the abdomen.

Perhaps the most important measure in preventing constipation is the proper regulation of one's diet. In most cases the condition can be avoided by eating foods that have either considerable bulk or some special laxative action. Some of the laxative foods are oranges, apples, prunes, peaches, figs, celery, string-beans, asparagus, spinach, rhubarb, onions, green peas, corn, baked potatoes (with skins), lettuce, tomatoes, honey, molasses, rolled oats, other whole cereals, and bread made from whole wheat or graham flour. Oils and fats are also laxative. The following are constipating: rice, dried beans, cornstarch, custard puddings, boiled milk, salted and dried

meats, cheese, tea, coffee, and bread made from fine flour. Water aids greatly in stimulating and promoting the action of the intestines. It works best if taken when the stomach is empty. This is especially true in the morning before breakfast. Such things as agar-agar and mineral oil are of value, but they should be used only temporarily and not be depended upon to take the place of the wholesome measures mentioned above. Most cases of constipation will clear up if sufficient attention is given to the diet, exercise, and habit. These are the correctives that should be tried first. If they fail, try medicine; but the common practice of always depending upon relief found in a drug store is a great mistake. Drugs should be the last resort and not the first.

### BATHING AND THE CARE OF THE SKIN

The skin is a very highly developed and sensitive organ and functions in many ways in helping maintain the health of the body. It protects the underlying tissues from the heat, cold, injuries of various kinds, and invasion of parasites. One of its most important functions is to help regulate and maintain a constant temperature inside the body. It also acts as an organ of sensation, receiving the external stimuli of heat, cold, and pressure. The skin is an organ of excretion, al-

though its importance as such is not considered very great. It also acts as a support for the hairs and nails, which are modifications of the skin. As an organ of absorption the skin has very little significance as, aside from the sweat-glands, it is practically water-proof. This is due to the skin being covered by the oily secretion from the sebaceous glands. Very little, if any, of the numerous preparations used by athletes and others to rub on the skin is absorbed into the body. Many of these things have no value aside from the lubricating effect in promoting massage.

Whether or not the skin stays healthy and well and in good condition depends in a large measure upon the general condition of the body. The skin is often an indicator of our general health. It gives us a good idea of how the other organs are functioning. If there is injury or disorder in some other part, such as the digestive tract, it may be very quickly reflected in the skin. The first manifestations of overeating, too free indulgence of meats, fried foods, pastries, and other errors in diet, often first appear in the skin. The condition of this important organ is dependent in a large measure upon exercise, diet, sleep, and other general hygienic measures that we employ. That explains the unsatisfactory results that we so often get from the local application of the various

skin remedies. Another reason is the worthlessness of most of these preparations.

Cleanliness is of prime importance in the care of the skin. This is accomplished by the warm bath with the aid of soap. Everybody should take a bath at least once a day. The cleansing bath for the athlete should come after exercise. The oblique shower-bath is the most satisfactory and beneficial, as it is not only efficient in cleansing the skin but, in addition, has a valuable stimulating effect. Only a few minutes in the warm bath are necessary to get the desired results. It may even be harmful to stay in too long. A warm bath dilates the blood-vessels of the skin, lowers the blood pressure, and has a soothing effect upon the nervous system. It frequently induces sleep if taken directly before going to bed. Cleansing the skin not only keeps the pores open so that the skin may function as an excretory organ, but it also prevents the clogging and infection of these openings. The athlete, as well as any one else who is going out of doors afterward, should always follow the warm bath with a cold shower. This helps to prevent catching cold. For the same reason he should dress warmly and avoid sitting in a draft after the bath. Better results are always evident if the bath has been preceded by exercise.

Training the skin is also an important procedure. The skin can be trained the same as any other part of the body. The cold bath is a real stimulant and aids materially in this process. It contracts the blood-vessels, slows and deepens respiration, and stimulates the nervous system. Not every one should indulge in cold baths, as there are many people who cannot stand the shock. Most athletes, however, will not only be able to take the cold shower but will be greatly aided by it. Whether or not one is able to take this kind of a bath depends upon the reaction he gets. The signs of a favorable reaction are a return of the blood to the surface of the body, a feeling of warmth, and a sense of well-being and exhilaration. If the body responds poorly a person feels cold, weak, and perhaps has a headache. How cold the water should be depends, then, upon the individual. The best time to take a cold bath is upon getting up in the morning; it should always follow a warm bath when one is going out into the cold. A vigorous rub-down should complete the bath. Aside from drying the body the rub-down is of value in giving a certain amount of exercise and stimulating the circulation. For those who can take it, the cold bath is a real tonic and one of the best preventatives of cold and producers of health that we have. Another valuable hygienic

measure for those who are strong enough to do it, without being chilled, is the air bath, or exposing the body to the air and light for a few minutes each day.

Clothing is another factor to be considered in training the skin. Just enough clothing should be worn to keep the body warm. We err more often in wearing too much clothing in the winter-time than in summer. Too heavy, thick clothing should not be worn indoors in winter as it causes the body to become overheated and to perspire, a condition which renders a person liable to a chill when he goes out of doors. It is better to wear the heavier and warmer clothes outdoors. Underclothes made of cotton or a mixture of cotton and wool are better than all wool, as wool absorbs and retains the moisture, preventing the normal action of the skin. In order to keep the skin clean it is necessary to change the under-clothing often. While it is desirable not to shut the air out from the skin by wearing too much clothing, a word of caution should be said to those who sometimes go to the other extreme. We often run across people who pride themselves on being able to go through the winter wearing their summer underwear and without using an overcoat. This is an unwise and foolish custom. It may be that certain individuals with a high resistance

and well-trained skins can do this and suffer no apparent ill effects. They stay well in most cases, however, in spite of the procedure rather than on account of it. In cold weather, when we are not sufficiently clothed, there is a great loss of heat and a severe drain upon the body's reserve power and strength.

The question is often asked why so many athletes lose their hair prematurely. The two most common causes of baldness are dandruff and a poor circulation, and anything which will prevent these will be valuable in preserving the hair. The best treatment in preventing dandruff is keeping the scalp clean. This can be done by shampooing the head and perhaps using some kind of an antiseptic solution. The shampoo not only cleans the scalp but also stimulates the circulation. How often we should use this measure depends upon how often there is need for it. Athletes naturally get their heads very dirty, and, while they usually bathe after exercise and get their heads wet while in the shower, they often do not cleanse their hair and scalp thoroughly. This may explain their loss of hair. Certainly it is not caused by wetting their hair every day. The simple application of water does not cause baldness. The circulation of the scalp is aided by massage, brushing, and combing the hair.

It is impeded by wearing hats that fit the head too tightly. There are many remedies widely advertised and used for preventing the loss of hair. Most of them are useless except in that they help do the two important things mentioned above, namely, aid the circulation or cleanse the scalp. Measures such as singeing, that affect the hair itself, are worthless.

Proper cleansing of the skin will prevent various infections which are often the source of considerable annoyance to athletes. The prevention of acne, "blackheads," and pimples consists of keeping the skin clear and the pores open. In treating and removing pimples, care should be taken lest a second and more severe infection occur. A pimple should be opened by a sterile instrument, and, after the removal of the contents, washed with antiseptic solution. They should not be squeezed and pinched in a way as to injure and lower the resistance of the part. Many boils and severe infections start in this way.

Boils are circumscribed areas of inflammation caused by pus-producing organisms. The infection usually follows a scratch or injury to the skin, although at times they seem to occur without any apparent cause. Although boils are, in most cases, due to a local infection, the general condition or resistance of the body has a good deal to

do not only with their occurrence but also with their cure. Their prevention is accomplished by keeping the body clean and avoiding scratches, abrasions, or injury of any kind to the skin. The application of sterile hot compresses, wet with bichloride-of-mercury solution, 1 to 5,000, is recommended for softening and bringing the boil to a head. The application should be made every two hours. The use of poultices for this purpose is to be condemned. When opening a boil it should be incised and the pus or "core" gently removed. The body, in attempting to limit the infection to a small area, builds a wall around the process and the common practice of squeezing the part breaks down this protective barrier and paves the way for a more extensive and serious infection. Before making the incision it is advisable to clean the skin with some antiseptic solution such as alcohol or bichloride of mercury. Tincture of iodine may also be used. After the boil is opened, care should be taken so as to prevent transference of the infection to some adjacent part. "Crops" of boils often result from careless handling and dressing of these open wounds. After opening the boil, as well as after every dressing, the part should be washed with an antiseptic solution and covered with a dry sterile dressing.

Blisters on the feet sometimes give athletes considerable trouble. Usually they can be prevented by wearing properly fitting shoes, and socks or stockings that do not have holes in them. Socks should not only be kept free from holes, but should also be washed often. While the basketball shoe should fit the foot snugly, it should not be too tight. The feet should be carefully washed and dried after each practice. The free use of talcum powder on the foot and in the shoe also helps prevent foot troubles. In treating blisters it is best, unless the blister is a large one, not to open it but rather protect it in some way. This may be done by the use of a felt pad, gauze bandage, or a piece of adhesive plaster. If the blister is very large or for any other reason it seems desirable to open it, first wash the foot thoroughly and then, with a sterile needle, puncture the blister through the skin at the side. After the fluid is removed the part should be protected from infection or any further irritation. To harden and toughen the feet a solution of tannic acid (a tablespoonful of acid to a quart of water) or alum water (a teaspoonful to a pint) is recommended. Corns and callosities are caused by wearing shoes that are too tight or permit friction. For the soft corns, which are usually between the toes, some dusting powder like aristol

(thymol iodide) may be used. Hard corns are frequently treated by soaking the feet in hot water and, after washing them thoroughly in some disinfecting solution, cutting them down with a sharp knife. Various so-called "corn cures" are also used. Although it is a common practice, it is questionable whether such conditions should be treated by the patient himself. It should be pointed out that it is not uncommon for very serious, and sometimes fatal, consequences to follow even slight cuts and infections of the foot.

Basket-ball players should keep their finger-nails cut short, cut with round corners. Bad scratches, as well as serious injuries to the eyes, sometimes result from long nails. Toe-nails should be cut straight across. Ingrown toe-nails can be prevented by wearing shoes that do not fit the foot too tightly. The nails do not grow into the skin, the skin is forced and squeezed over the nail.

"Jockstrap itch," known scientifically as "tinea cruris," is an infection of the inner sides of the thighs and scrotum, and is due to a spore-forming organism. The infection usually follows the wearing of dirty jock supporters and from unclean habits. It is commonly found among athletes. Sometimes it spreads among the men using a gymnasium and is very hard to eradicate. The

best treatment for the condition is keeping the part clean, applying ammoniated mercury and preventing irritation of any kind. The ammoniated mercury should be of weak strength. It is a good plan to use it only at night, applying talcum powder during the day. If the infection is very wide-spread among the men it may be necessary to boil all their clothing before the condition will clear up.

Aside from the toxins resulting from the physiological processes of the body, there are frequently poisons formed from pathogenic germs in some localized site. Such conditions are known as focal infections. These processes are a constant menace to health, as either the bacteria or their toxins may be carried by the blood or lymph to other parts of the body and cause a secondary infection. It is believed that many diseases such as rheumatism, arthritis, valvular heart-disease, neuritis, chorea, Bright's disease, pernicious anaemia, and others, which have baffled medical men in the past, are now explained by the presence of some focal process. For example, it is very common to find rheumatism following tonsilitis, or neuritis caused by an abscessed tooth. These focal processes also cause a generally lowered resistance. There are many evidences that our conclusion regarding this matter is true, the most

conclusive being the fact that when the local infection is removed, the patient is greatly improved or gets entirely well. There are many places in the body where these focal infections are found. The most common sites are the teeth, gums, tonsils, nose, cavities in the bones of the head and face, gall-bladder, appendix, and genito-urinary tract. An infection anywhere may serve as a focal process. A boil or an infected finger may be followed by either a general or secondary infection.

It is of vital importance that we appreciate the relation between focal infections and disease. It is obvious that when in doubt regarding the cause of any of the conditions mentioned above, that a thorough search should be made for a probable localized origin. But that is not enough. We should be interested sufficiently in the prevention of disease to attend to such matters before we get sick and thus avoid a possible permanent injury to vital organs of the body. Sometimes these focal processes are very difficult to find and it may mean a little inconvenience and time to do it, but it is worth the trouble. There may be no definite symptoms. We may be totally unaware of an abscess at the root of a tooth until the X-ray reveals its presence. For that reason periodic examinations are advisable. Many people have formed the habit of going to

the dentist once or twice a year to have their teeth attended to and the rest of the body should receive the same care and attention.

### COLDS

It is not to be inferred from what we have said that focal processes are the cause of all the ill health and disease. That is not true. Pathogenes may get into the body through any of the many entrances and by growing and multiplying injure not only some particular tissue or organ but cause a poisoning and lowered resistance of the whole body. Prevention of disease involves, therefore, not only the elimination of suitable sites for the growth of bacteria but the prevention, as far as possible, of their entrance into the body.

Perhaps the most common infection is that causing the ordinary cold. There are two or three important factors in the causation of this condition. Bacteria of one variety or another are practically always present and play a prominent part in the production of the symptoms. In most cases, also, there is a disturbance of the circulation of the blood, especially of the respiratory tract. Again, as in so many other cases, the general condition of the body is of prime importance, otherwise we should never be free from colds. There are many things that will lower the resis-

tance of the body. Congestion of the respiratory tract may result from a number of factors. It may be caused by undue exposure to the cold, causing a disturbance of the general circulation. This is especially true in persons with poorly trained skins. It commonly follows irritation of the lining of the nose and throat by such agents as dust and hot, dry air. Deformed septums, diseased tonsils, and adenoid growths interfere with the normal functioning of the respiratory organs and are responsible for a large number of colds as well as many other more serious conditions. If the invading organism be of sufficient virility there may result an attack of a cold in healthy individuals. This, however, we believe to be unusual. Athletes often suffer from severe colds, but with them, as with other apparently normal individuals who suddenly come down with a severe cold, the cause lies not in any special strength of the bacteria, but rather in a temporary lowering of resistance resulting from careless exposure or from overwork and fatigue. There is a limit to the physical endurance of the athlete just the same as with any one else, and the limit of his work should be where his reserve strength is greatest and not at the point where his reserve power is exhausted. When for any reason during practice, or a game, the player is not working,

he should be properly protected from the cold. If the athlete is not overworked and he observes the same rules regarding his health as everybody should, he ought to be practically free from colds. Just because they are strong and in good health, athletes often disobey certain rules of hygiene and take chances that ordinarily they would not be willing to take.

In preventing colds the most important factor is following the rules of hygiene and keeping the resistance as high as possible. If this is done and attention paid to the other causative factors mentioned above, colds should be rare. To avoid colds, one should take exercise regularly; but not overwork and become extremely fatigued. A bath should be taken once a day. The cold bath is a tonic and a valuable agent in training the skin if the individual is strong enough to get a favorable reaction from it. Overheated rooms should be avoided, plenty of outdoor fresh air breathed, the windows kept open while sleeping, too much or too warm clothing avoided, eating done moderately, plenty of water drunk, and all of the organs of elimination kept working normally.

For the athlete whose general health is good, the most important considerations are the removal of any obstruction or handicap to normal

breathing or functioning of the respiratory tract, such as diseased tonsils or a deflected septum and the avoiding of extreme fatigue and exposure to the cold. The principle followed in trying to abort a cold is to relieve the congestion in the respiratory tract. This may be done by taking a saline cathartic or by dilating the peripheral blood-vessels by use of a hot bath. A hot drink is of value. Other methods are used, such as the local application of drugs, but this should be done only under the direction of a physician. The hot bath should be taken before going to bed and care exercised to prevent chilling of the body after the bath. Hot lemonade is the most popular drink. The best cathartics are magnesium sulphate or Epsom salt and Rochelle salt. This is especially true if taken during the daytime; at night calomel is recommended, to be followed by Epsom salt the next morning. The best time to take magnesium sulphate is in the morning, half an hour or so before breakfast. Plenty of water should be drunk with it.

The thing to remember about the treatment of a cold is the fact that after the initial stages the condition is one that affects the whole body and not just the respiratory organs. While it is true that in many cases the most marked symptoms are in the nose and throat, yet there is always a

lowering of the general resistance. There is a struggle with the disease in which the whole body is involved. We should not think of a cold as a condition of little consequence but rather a disease, which, if not properly cared for, may lead to very serious results. It is common knowledge that the complications of a cold are many and oftentimes serious. In most cases the abortive treatment of colds is unsuccessful. But it is always worth while to try. Whether it is expected to stop it or not a cathartic should be taken. After that the most successful treatment consists of following carefully the laws of individual hygiene and taking the best possible care of oneself. Drugs are of very little value. Baking-soda is useful, when taken, half a teaspoonful in half a glass of water every half hour for six doses. Medical treatment may be advisable but it should be done by a physician.

There are numerous cough medicines and other drugs widely advertised for colds, but most of them are useless and some are harmful. If a man is sick enough to use drugs, he is sick enough to have the services of a physician. If the temperature is above normal, the patient should go to bed. That is the best treatment for a bad cold. And one should not go out until the second day after his temperature has come back to normal.

Colds are contagious, infectious diseases, which is another reason why the sick man should stay at home until the disease has subsided. Staying in for a few days will often save time in the end. If one is up and about, as most people are with a cold, he should limit his activities and put as little strain on the body as possible. Plenty of fresh air should be breathed both day and night. Cold air may irritate the throat. The body should be kept warm so as to prevent chilling of the skin. Overeating should be guarded against. We no longer "stuff a cold" nor "starve a fever." The food should be moderate in amount and easily digested. There should be free elimination of waste products through the kidneys and intestines. If the body reacts favorably, cool or cold baths are useful. Plenty of sleep is demanded. Among athletes a popular way of treating a cold is "working it off by exercise." Physical activity carried to the point where it stimulates the circulation and other physiological processes is of distinct value. It aids the organs of elimination and is a stimulant to the body. However, it should be moderate and stopped short of the point where fatigue begins to set in. How much we should take depends upon how bad a cold we have and how strong we are. Exercise to the extent of causing excessive perspiration and fatigue is

FIG. 19. WELL UP IN THE AIR.—PAGE 32.





distinctly harmful. The body's resistance is already low and needs all the energy and strength that it has, and severe exercise adds additional strain and lowers its power of recuperation. Athletes should not be worked hard when they have colds.

### TOBACCO, ALCOHOL, ETC.

The poisons which man voluntarily puts into his body and which do him most harm include alcohol, tobacco, and others found in drugs and patent medicines. Although we have national prohibition it is worthy of note, in passing, that alcohol, used by many in the past as a beverage and thought by others to be a stimulant, is in reality a narcotic, the same as chloroform, which not only destroys the higher powers of man such as reasoning and judgment and causing him to lose control of his sense of courtesy, politeness, and scruples about the best things of life, but also lowers his physical efficiency. Surely it is unnecessary to say anything further about an evil that has spoiled so many promising careers and caused so much misery in the world.

There is much that might be said regarding drugs and patent medicines. It should be remembered that it is not the medicine that a man takes that causes him to get well. "Most curable

diseases get well of themselves." Sometimes the drugs given are the main agents, but in most cases we have to depend upon the body for the restoration of health. It is a very unwholesome habit to depend upon drugs to cure every ache and pain. Going to the drug store is one of the so-called "short-cut" procedures that we have invented to meet the conditions of modern civilization. It is surprising the amount of drugs taken and the large sums of money paid to the manufacturers of patent medicines. The whole nostrum business is largely one of fraud. The prices paid for the drugs are far in excess of that which would have to be paid for the same thing on the prescription of a physician. Not only that, but the public is deceived not only as to what the preparation contains, but also as to its effects. The name patent medicine is a misnomer. The products are not patented. The laws of this country would not allow it. Besides, the manufacturers do not want them patented. The most important thing to the individual about taking drugs is that it is a dangerous procedure. Unless taken on the advice of a physician, more harm than good is apt to result. We are continually hearing and reading of cases where people have been made very sick or killed as a result of taking some medicine. Moreover, taking such

drugs as morphine, cocaine, and others, sometimes results in a drug habit. The wise course to follow is to let all drugs alone and depend upon sane and wholesome living to keep well. When that fails see a physician.

The use of tobacco by athletes is a question that always comes up in the discussion of training. There has been a great deal said and written concerning it. While there are a good many who defend its use in ordinary life, coaches are almost unanimous in condemning it for athletes. The physiological effects of tobacco are not entirely understood; besides there are so many factors, such as age and mode of using, which cause its effects to vary. One cigarette is the least harmful form in which to use tobacco; but the trouble is, that *one* is so little satisfying that another is taken, and then another, until a habit is formed. An athlete should avoid them. Nicotine is the chief drug found in tobacco. There are other substances such as ammonia and carbon monoxide which have an injurious effect on the body. Nicotine has a narcotic action upon the nervous system. Common circulatory disturbances are an increased rate, palpitation, and irregularity of the heart. Tobacco also has a harmful effect on the digestion. The ammonia is thought to irritate the mucous membrane of the

nose and throat. In moderate amounts, in the normal adult tobacco does not have any marked detrimental effects, and that probably is the reason why so many people smoke and uphold its use. But that does not necessarily mean that there are no detrimental changes taking place. We are certain there are no good or beneficial results coming from it. Tobacco is distinctly harmful for growing boys. All authorities are agreed upon this point. During adolescence, when marked physical and mental changes are taking place, marking the growth from boyhood into adult life, serious injury may result from the use of tobacco. Athletes should refrain from its use. There can be no question about that. No boy or man can do his best, either for himself or the team, if he smokes or chews. The claim that tobacco "takes your wind" is true. Having "good wind" is a question of having a good heart, and anything affecting your heart as tobacco does, will "cut your wind."

## CHAPTER IX

### SPECIAL TRAINING FOR PLAY

In the preceding chapter we have discussed the most important factors having to do with the general health of the individual. We shall now consider the special considerations necessary for men training for basket ball. As has been said before, basket ball is a game requiring great endurance, but it is also a game of much speed and great skill. To become a polished player, it requires, in addition to a strong body and good general health, much practice and attention to the features which are particularly characteristic of the game.

#### PLAN OF TRAINING

Before the beginning of the season the coach should work out in more or less detail his plan of training for the season. With basket ball, as with anything else, one is more apt to succeed if there is system to his work and if he has a definite aim or goal in view. The same principles regarding training and general plan of work may hold true to a greater or less degree from year to year,

but there are so many other considerations such as the caliber of the men, the kind of a schedule, injuries to players, and other conditions that have to be met, that the coach cannot afford to be content with working out his plans from day to day. The big and most popular aim is to go through the season and win as many games as possible. To do this means keeping the men in the best possible condition and up to the highest point of efficiency. The aim is to begin before the season opens and in a short time get the players in condition for the opening game and then by continued practice gradually increase their ability until, at the end of the season when the hardest games are usually played, the team will represent the maximum efficiency in basket ball. But the purpose, in addition to winning games, should include affecting and giving the benefit of playing this splendid game to as many men as possible without lowering the effectiveness of the team. Unfortunately, the number of men on the team is small and the available courts in most places so few that there is a limit to the number that can be carried on the squad. The object is to win on account of the superb condition of the men and not at the expense of their health. It should be the aim, also, to carry on the game in a fine sportsmanlike way so that the team

will be a credit and honor to the institution or organization it represents. The greatest values of athletic sports are not physical in character, but are justified rather on account of the school spirit, loyalty, and enthusiasm which they, more than any other factor, help develop and maintain. A proper share of this responsibility should fall upon basket ball.

It takes about six weeks for a man to get into shape for any of the major athletic sports, providing he has been taking good care of himself for some time previous and is in a good general condition. If the men have not kept fit it may take longer. Most school teams begin their schedule right after the Christmas vacation and therefore should begin practice about the middle of November. It often happens that some of the best basket-ball players are also playing on the football team, which means that these men cannot start practice until around Thanksgiving time. Athletes should not try to participate in two sports at the same time. Another reason for the delay in beginning basket-ball practice is the fact that many schools have but one man who coaches all the teams and therefore no attention can be given to basket ball until he is through with football. But there is no reason why the men who are not playing football should not start work-

ing in the gymnasium, even though there is no one to coach them for a week or two. They can be told in a general way what to do, besides, there will always be some one of more or less experience who can take charge and supervise the work.

### SYSTEMATIC PRACTICE

At the very beginning it is well for the coach to get the men together and go over with them his plans for the season and have an understanding regarding what is expected of the players. We refer now to such things as the amount of required time for practice, the way the work is to be carried out, and the conduct of the men in regard to training and keeping in condition.

While it is most desirable that the men have a good time and thoroughly enjoy every phase of the work, it is essential to the greatest success of the team that practice be conducted in a business-like manner. It sometimes happens that what appears to be very promising material, turns out to be of very little value as the result of the careless way in which the men are allowed to practise. Nothing is ever accomplished either in practice or in a game by indifferent playing. Men get into very bad habits by "just fooling around." Everything done in practice should be given the same amount of attention and done with the same



FIG. 20. TWO POSITIONS ASSUMED IN JUMPING.—PAGE 37.



care as would be given it in a game. For example, the wild careless way in which a man sometimes shoots in practice is a very poor habit to form. If a player will imagine every time he shoots that it is a very critical point in a championship game, and do his very best to make the basket, he will find that his shooting will improve not only in practice but in the games as well. Another thing that is apt to be done carelessly in practice is passing the ball. The importance of passing is not appreciated by the average person interested in the game. It is known, of course, that good passing is necessary to first-class team-work, and in most cases it is the measure employed in bringing the ball down the floor to within shooting distance of the opponent's goal, but that is not all to remember about this important part of the game. Good passing is an art that requires as much good judgment, quick thinking, and sometimes the same skill as shooting. It will not only make possible the running up of a big score, but it will do more than anything else to demoralize the opposing team. In a play involving passing the ball, the man who does the passing is just as responsible as the player who is catching, although it is the latter who usually gets the blame if the ball is dropped and the play fails. We have already spoken of the subject of passing the ball,

but it is mentioned here again because of its importance, the difficulty with which the ability to do it well is acquired, and because it is so often neglected. A team never becomes so good that the passing cannot be improved. For that reason coaches should be as careful about it as possible. The "wild heaves" and "throwing the ball away" which one so commonly sees in games is the result of having done the same thing in practice. There is much truth in the statement that "a man plays the way he practises." What has been said about passing and shooting is true with every other phase of the game.

The problem that the coach has at the beginning of the season is to take a group of men or boys, some of whom are in good condition and some of whom are not, and by more or less intensive work train them in the fundamentals of the sport and at the same time whip the team into shape for the opening or pre-season games. The practice at first should be light and short. For the first three or four days it should not be over thirty or forty minutes. It is never advisable to make practice too long. When a man becomes fatigued he naturally slows down with the result that in practice, when he does not have the stimulation of the crowd and interest and competition of a game, he not only plays poorly but is apt

to become careless, a fault which he should make every effort to avoid. The time to stop is when the players are going at top speed and just before they begin to fall off in their work. The men will often protest against this and want to play longer, but it should not be allowed. That does not mean that they should not have that "just one more basket" but it should not mean another twenty or thirty minutes. The men should come off the floor tired but feeling good. If the practice is snappy and hard as it should be, after the first few weeks there is danger, if the men are worked too long, that they will be "stale." Most teams get too much rather than too little practice. The coach should have a very definite idea before he takes the men on the floor of what he is going to do at each practice. If he does this and has system in the work, an hour and a quarter or an hour and a half should be long enough. The time, of course, will vary according to the time of season, the day of the week, number of men on the squad, and so on; but usually it can be confined to an hour and a half. It should seldom be necessary to run it for two hours or over. For high school players one hour should be sufficient, and for boys in the grades a still shorter time.

The coaches of high school or other boys' teams should adapt the game as nearly as possible to

meet the physical condition of the boys, and they should not make the common mistake of trying to make the boys meet the requirements of the game as it is supposed to be played by adults. The official rules of basket ball are intended primarily for full-grown men. For a long time girls tried to play the game according to men's rules; and very unfortunately, for the girls, it is still done in some places. Finally, however, the mistake was discovered and now the girls have their own rules. A modification of men's rules for the boys would also be a good thing. During adolescence, that stage of life when the boy is changing from boyhood into manhood, he cannot stand the strain of exercise that requires great endurance. Basket ball demands all the reserve power of the heart which at this time of life is weak. Much can be done to obviate the condition by reducing the length of halves to ten or twelve minutes. If it is desirable to play longer, we suggest playing the game in quarters of about eight minutes each with five minutes intermission between each quarter.

#### DEVELOPMENT OF THE TEAM

For the first few days the work should not only be short but should also be light. It is a great mistake to practise too long or too hard at the

beginning. The coach will accomplish more in the end, in the way of getting the men into condition, by increasing the work gradually. The temptation is to go at it hard and the players will want to do it. The harm from this procedure, however, lies in impeding the progress of the players by making them lame and stiff, and the recovery from such a condition always means a loss of time. The condition of each man will vary, so the coach will have to use his judgment regarding what each man can do.

We have discussed the subject and importance of fundamentals in a preceding chapter. As the success of the team depends upon the mastery of shooting, passing, pivoting, dodging, dribbling, etc., the coach should lose no time in getting the men to work on these essentials. The two big things that should always be kept in mind and always worked for are the mastery of the fundamentals and the ability to work them out as a group in the form of team-work. So the coach should begin working on them the first day and keep hammering away at them all season. The two things that men want to do most at practice are shooting baskets and scrimmaging. Both should be done, but not to the exclusion of everything else. Scrimmaging is apt to be overdone at the beginning of the season. The objects of scrimmaging are to keep the

men happy and interested, to work up their endurance, to give the players a chance to try out in a game what they have been taught regarding pivoting, dribbling, etc., and to develop team-work. There should be a short scrimmage practically every day, but in the beginning it should be only long enough to send the men home in a happy frame of mind and to start developing their "wind." The principle to follow is to practise each part of the game a little each day, and then try to put the parts together and form the whole. After a thorough drill in passing, both while standing still and in motion, shooting should be practised, using the various kinds of shots and placing emphasis upon proper form and methods. First it is well to have the men try the close shots and, as they become accurate, to move out and shoot from a greater distance. Emphasis should be laid on shooting close up to the basket. The joy of seeing the ball drop into the basket when thrown from a distance tempts many players to neglect the "close-up" shots. To be able to shoot from a distance is desirable and it sometimes wins close games, but it is not to be depended upon too much to run up the score. Most championship teams are those that make their shots close. The average player can become very accurate when close to the basket, if he practises and gives the



FIG. 21. THE START OF THE PIVOT.—PAGE 38.



proper attention to his shooting. How often we see shot after shot taken close to the goal and no basket scored. This fault the coach should try to correct in his team. The first practice or two should be free shooting. Then the men can begin to shoot under conditions similar to those they will find in a game. They may dribble in and shoot or shoot in turn, and, after each one has taken his shot and is on his way back to his place in line, try to guard and prevent the next man from shooting. The pivot and dodge can also be practised in connection with shooting. A couple of players who act as guards may be placed in front of the basket. Before each man shoots he attempts to dodge or, by pivoting, elude the guard and then try for the basket. The men should also be taught to follow up their shots. It is generally advisable to run in after each shot, but to do it successfully requires nerve and grit as well as speed and good judgment; and there are not many players who do it well. To be able to judge where the ball is going to come down, when to start and get to the right spot at the proper time, as well as to get by two or three guards, requires a good deal of ability and practice. Following up shots is good basket ball and the coach should insist on it. The man shooting knows better than any one else on the floor just where the ball will fall, besides, he is

usually under way and stands a better chance than the other players of getting the ball. If he does not get it himself he can prevent the other team from securing it or at least make it impossible for the opponent to pass the ball after he gets his hands on it. In practice the shots should be followed in and a sufficient number of attempts made to make a basket. The common practice of shooting after passing the ball up and down the floor is also very good.

One of the most valuable men on the team is a good foul shooter. A basket made from a foul shot counts one half as much as one from scrimmage, and it often happens that a team with a man who can shoot fouls keeps "in the running" when otherwise it would be entirely outclassed. Early in the season the coach should try to find a couple of good foul shooters. One is sufficient while he is in the game, but he should have a good substitute to take his place in case he is forced to retire. It is well to try out several men until the coach is sure of the most likely ones and then work with them. These men should try from twenty-five to fifty foul shots every day. After they have acquired the proper form they should do their shooting as nearly as possible under game conditions, that is, instead of standing still on the foul line and shooting shot after shot while

some one passes the ball back to them each time, they should, after the first few tries, move about the court after each shot for a few seconds, shooting, dribbling, etc., and then step up to the foul line and shoot. Foul shooters have their off days the same as any one else, and to know when to change men and let another player do the shooting is something that is very difficult for the coach to determine.

As with shooting, so practice on the other primary essentials should be carefully carried out. They should be practised in their simplest form and then gradually worked in with the other phases of the game, increasing their complexity until they exactly simulate game conditions. There are but very few special exercises or measures that are of any value in training men for basket ball. Best results are obtained from practising the same things and in the same way as one would be expected to do them in the game.

The habit which many teams have of playing pre-season games is a good one. Such an arrangement stimulates interest and does, without any question, give the men good experience. It enables the coach to find and strengthen certain weaknesses which appear only when playing other teams, and these weaknesses had better appear in pre-season games than in a championship

series. New men can be tried out and many other experiments made. Most teams will not find it advisable to play more than two or three pre-season games.

### CONDITIONING

After the season has started and the preliminary problems, such as picking the team, are out of the way, the work of the coach resolves itself into taking the squad and, by wise regulation of practice and work, improve the playing of the first team and get it into top-notch form for the deciding games at the end of the season. There are no particular new difficulties. The whole problem confines itself to progressing along the fundamental lines which we consider so important in the beginning. There can be no advancement except that resulting from an improvement in shooting, dribbling, and the other basic aspects of the game. All through the season the work of necessity must be that of mastering, as far as possible, the fundamentals and working them out in a polished way in the form of team-work. Where the emphasis will be laid depends upon the caliber of the team and what its weak spots are. This is something that each individual coach must decide. If the team cannot shoot, emphasize shooting; if poor in passing, stress passing, and

so on. The coach should try to make his team superior in the essentials and not depend upon some fancy shooting or passing. There is not much room for frills in basket ball. The opponents and their particular style of play will also determine the course of training from week to week. A team should be able to play more than one style of game, or at least know enough about the different styles of offense and defense so as not to be altogether lost and helpless when something new or the unexpected is tried.

All through the season the coach should try to keep the men feeling fine not only physically but mentally. They should enjoy their playing. Something more than just hard physical work is necessary in training men for athletic contests. The coach should know not only the kind of work which is needed but also how much and when it should be done. Sometimes it is just as important to know when not to work as when to be busy. It is impossible to keep the team at its very best every day of the season, but by careful coaching and skilful use of the time between games the men should enter every contest in good spirits and in the pink of condition. We are thinking now of a schedule having but one game a week and are, of course, barring accidents of any kind. The idea is to have the team at its best at the

right time and that is the day of the contest. Each week should find the team in better condition than it was the week before, until at the end of the season it is at its maximum point. All coaches should be on the lookout for, and try to prevent, the common condition of staleness. Overtraining or staleness is due to overwork and the persistence of fatigue products in the system. When work is too strenuous or the periods between activity too short, the body is unable to maintain the proper balance between the breaking-down and the building-up processes. As the process goes on there is an accumulation of the fatigue products which poison the body and lower the individual's reserve power. Finally a point is reached where the body has nothing left to draw on and a break of some kind follows. The athlete that has gone stale lacks ambition, falls off in his playing; his face loses its natural color, the eyes are sunken, there may be loss of weight; he is nervous and irritable and is apt to suffer from minor illnesses. The best treatment is to lighten his work and give him a chance to regain his strength. Sometimes a complete change of routine is desirable. This with plenty of sleep, rest, a proper diet, and something to keep his mind from worry of any kind will usually enable him to regain his health in a couple of weeks. But the important thing

is to prevent this condition, and it is done by not overworking the men.

If the game is on Saturday the practice Monday should be shorter than usual, most of the time being spent on doing the things in which as a result of the last game the team was found to be weak, and ending up with a short scrimmage. Tuesday, Wednesday, and Thursday should be the days of longest scrimmage and when a good deal of time should be spent on strengthening the weak places, correcting mistakes of the past, or practising some special play for the next game. On Friday or the day before the game there should be a very little scrimmaging and the practice rather short. The players should shoot a few baskets, run through the plays to be used the next day, and then conclude with a five or ten minute scrimmage. If possible, practice should be held at the same time of the day as the games are played. If the games are scheduled for the evening, it is better to have practice at that time. The obvious reason is to enable the players to become accustomed to the light.

On the day of the game the players should go about their work just as they are accustomed to do on any other day. They will play a better game if they carry out their regular routine of life. The student's work is not so severe as to

use up much of his reserve physical strength, besides it keeps his mind off the game, which is wise. If he has any time on his hands he is apt to worry. The team should report at the gymnasium an hour before the game. Half of the remaining time will be consumed in getting dressed and talking over anything the coach may want to bring up before the men go on the floor. The coach should not have a great deal to say. Success in basket ball comes from being able to do things from force of habit without having to stop and think about it, and it does not do much good to try to learn too many things just at the last minute. The twenty or thirty minutes on the floor before the game is called should be spent in first shooting at rather a short distance from the goal and then moving back for the average shot. A few long shots should also be taken. If on a foreign floor, it is important to notice the condition and size of the court as well as the back-boards and baskets. In most cases they will be different than the ones the team is accustomed to and it will require some attention to get used to them. All the important movements of the game, such as pivoting and dribbling, should be practised before time for play is called. All of this can be worked in with the shooting. The men may dribble in and shoot, shoot after pivoting,

FIG. 22. FINISH OF THE PIVOT AND START OF THE DRIBBLE.—PAGE 38





and so on. Just before the game is called, the second-string men should leave the floor and allow the five men who are going to start the game to get thoroughly warmed up by passing the ball up and down the floor. After a few minutes of warming up, the men who will shoot the fouls should practise several shots apiece, first taking a few consecutive shots without moving from the foul line and then taking turns, each man moving about the floor a little before he shoots.

Living a hygienic life and playing basket ball itself is all that is necessary. Running the men around the track, giving calisthenic exercises and the like are not only unnecessary but may do more harm than good. Experience has shown that the centre may improve and add several inches to his jump by practising a few minutes each day trying to touch a ring placed at a certain height. There may be a few other exercises which, like the one just mentioned, are similar to co-ordinations used in a game and might therefore be of value.

### PICKING THE TEAM

One of the hardest problems of the coach is to eliminate from the number that first report for practice the men who are not good enough to be of any value to the squad, and in the second

place to choose the five best men for the first team. Scrimmage is necessary to tell whether or not a man is a real basket-ball player. It is a common observation that men who show up well in practice in shooting, dribbling, and other phases of technic often are miserable failures in a game. It is not how good a man looks in practice that counts, but rather how he behaves in a game. Ordinarily, the man showing good form will be the better man in any branch of athletics, but this does not always hold true. Even after he is in the game, the class of a man is shown not by his form, but by the number of baskets he makes, and what he contributes to the success of his team. In basket ball as much perhaps as in any other game there is the opportunity to be selfish, to "show off" and "play to the gallery." Unfortunately for the game, this sort of procedure is not uncommon. Such a man may succeed in making the crowd believe he is a great player, while in reality he is contributing very little. In deciding who shall be on the team, there are a number of factors to be considered. The ideal player is a man who plays well, keeps himself in good condition, is willing to learn, co-operates with the other members of the team and the coach, and, while taking the game seriously, not only looks on the bright side of life himself but tries to keep every-

body else happy. Every player should be required to measure up to these requirements before being allowed to play. It often happens that a school does not have as good players as is desired, but there can be no excuse for playing men of questionable character. School authorities are too often inconsistent with the ideals they preach and the type of men they permit to represent the school on the athletic teams. A man as an individual may be a good player, but if he will not co-operate, if he goes around with a grouch on, or in any other way lessens the efficiency of the team, the coach should be sure his good points more than offset his bad ones before he is given a berth on the team. The team is all-important and not the individual. The player's value is to be considered not from the standpoint of the individual but from the standpoint of the team. This point cannot be too strongly emphasized. The coach will be aided in picking his team if, in addition to observing the men in a general way, he gets some statistics and definite information as to their playing. This can be done by having some one keep account of the number of times a man shoots for a basket during a game and how many goals he makes, what proportion of his passes are good, the number of passes he recovers and how many he fails to catch, how many times he

misses the signal, and so on with all the important aspects of the game which can be measured quite accurately. A summary of such a record may show that the coach has been mistaken in his original opinion regarding a certain man. Much valuable information can be secured in only this way. If the coach finds out that the record of a certain player shows him to be the best shot on the team he should make it possible for this man to shoot more often, and at once, if all other factors are the same as before, the team becomes stronger.

Every man should be given a fair chance, especially the new men who are reporting for the first time. The coach should be sure before eliminating any one from the squad that he cannot possibly make good. New men are apt to be a little shy, and the veterans, having confidence born of a year or more of experience, sometimes make it hard for the youngsters to get in and get started. Some one has said "It is not what you are that counts, but what you are in the process of becoming." New men may not be as good at the start as the older players, but may, with perhaps half the coaching given the veterans, make much better players. It takes a little time to pick out the best players if the squad is large, and especially if several of the men show more or less equal ability. For that reason the coach should

be wary in making his choice; but he should not wait too long. The more the same men play together the better team they make, and hence the five best players should begin practising and playing together as soon as possible. In basket ball there is a great deal in knowing one's team-mates. After the same men have played together for some time, they know just what each can do and what is expected of each one. They learn to "sense positions" unconsciously; and without looking a player may pass the ball to a certain place not because he sees any one there, but because he feels and knows from experience that a team-mate will be there to receive it. The only way this condition may be acquired is by working together. For that reason, other things being equal, the team should be kept intact. It is impossible to get good team-work by constantly changing players. It is not good policy to change players too often in a game unless it is desired to give the substitutes a chance to play. The best rule is to start the first team and keep it intact unless, through lack of endurance or injury, some one may have to drop out. New men going in break up the smoothness of the team-work as it takes the team a few minutes to adjust itself to the change. Again, the new man must learn, as did the player he is replacing, by ex-

perience the tricks and methods of his opponents, and the time lost in this way is sometimes disastrous. It occasionally happens that the second team as a unit is stronger than the first team with one or two of its regulars missing.

The plays in the beginning should be few and simple. The aim is to give the men as much opportunity to work out and practise the fundamentals of the game as possible and at the same time not make the plays any more difficult than necessary. It is not the elaborate or complex plays, so much as the simple and fundamental ones well learned and done well, that win in basket ball. Although there is a difference in the quality of plays, yet it is not so much their superiority as the way in which they are executed that decides which is the better team. Therefore, it is best to begin with the easy ones and learn them well. If more difficult plays are desired they may be added from time to time. Basket ball is so fast and things happen and change so quickly that a team easily becomes confused and spoils a play that is too involved.

### INJURIES

Injuries in basket ball are frequent. They do not occur as often as in football, yet they are not at all uncommon. They vary from a slight break

in the skin to a broken bone or something even more serious. Few deaths following injuries received in basket ball have been reported. The important thing regarding injuries, as with every aspect of ill health, is to prevent them if possible. In most cases men get hurt as a result of bodily contact, wearing clothing not suitable to the game, falling on a slippery floor, or running into some obstacle placed too near the court. It is impossible to prevent men running into each other while playing basket ball, and it is to be expected that injuries from bodily contact will continue to happen as long as the game is played. The only way to prevent such mishaps is for the athlete to keep himself in as good condition as possible, protect the parts liable to injury, and increase his skill in dodging his opponent. The better and more skilled the teams, the less likely are the men to get hurt. It is in the scrub games that most injuries occur. The coach should keep his good men out of all such "free-for-all" affairs.

The problem of keeping the gymnasium in condition to play basket ball or to take any form of strenuous exercise is a puzzling one for many coaches and directors of gymnasiums. This is due to the popularity of social dancing among students. In most schools the gymnasium is the only place suitable for this form of recreation,

and, naturally, there is a great demand for its use. So throughout most of the school year there is a constant conflict between the students who want the floor waxed for dancing and those who are responsible for athletics and gymnasium work. Men cannot play basket ball on a waxed floor without danger of getting hurt. Therefore, wax should be kept off the basket-ball floor altogether. On the other hand, one cannot dance on a rough floor. Just the dancing alone, however, without any special preparation, will make most hard-wood floors quite satisfactory. The floor will not be like that of a ballroom, but that is not necessary. It is more important that the students have a place to enjoy wholesome exercise every day in the year with safety than it is to have somewhere to dance one or two hours a week or month. Water should not be used to clean floors. Sweeping with oiled sawdust is better. A mixture of turpentine and linseed-oil may be used.

Accidents happen sometimes as a result of the players running or being pushed into the bleachers, some piece of apparatus, piano, or some other obstacle near the court. Everything of this sort should be kept well back out of the way. Sometimes the gymnasium is so small that the basket-ball court takes up most of the space. In such a case every dangerous article should be covered

with a mat or padded in some way. A little effort in this direction may do a great deal of good in preventing injuries to the players.

Scratches and cuts occur frequently and should be treated like any wound in which the skin is broken. Even the slightest and most trivial wounds should not be neglected, the reason being to prevent infection and a more serious condition. Best results are obtained in treating open wounds by not attempting to wash them out with water or any antiseptic solution, but by simply applying tincture of iodine and covering them up with a piece of sterile gauze. In trying to wash a wound we are apt to put more germs in than we take out. The iodine can be applied by a cotton swab made by twisting a piece of cotton on the end of a stick. Sterile gauze and not cotton should be used to cover the wound. In most cases it is best held in place by strips of adhesive plaster. Plaster, collodion, and "new skin" preparations should not be used as there is a danger of sealing up an infected wound. Before handling or dressing a wound the hands should be washed thoroughly. The severe cuts in the skin above the eye or on the face usually result from contact with another player's head. The treatment of these cases differs from that described above in that they may have to be sewed up. If the wound

is so deep or long that the sides cannot be brought together with adhesive tape, then sewing up is advisable in order to prevent a bad scar.

Sprains are very common in basket ball. They are injuries to the joints caused by a wrenching and twisting of the part, resulting in a stretching and breaking of the ligaments and rupture of the blood-vessels, with more or less hemorrhage in the tissues. In treating a sprain one should first be sure that there is not an accompanying fracture. In many cases it is very difficult and sometimes impossible to tell whether or not the bone is broken. When there is the slightest doubt about it, an X-ray picture should be taken and the graver condition given the benefit of the doubt. This is important because of the vast difference between the treatment of a sprain and a fracture and also because of the permanent injury that may result from a broken bone that is not treated properly. More and more cases of sprains are turning out to be fractures because of the more extensive use of the X-ray. The symptoms of a sprain are pain, which is increased by movement of the joint, tenderness, swelling, and perhaps redness and discoloration. There is no deformity. In treating a sprain the best practical treatment consists of applying cold or very hot water. Some men recommend alternate applications of heat

and cold. A good rule to follow is this: If treatment can be applied immediately, use cold; if some time has elapsed since the injury, use heat. The cold causes a constriction of the blood-vessels and lessens the hemorrhage into the tissues. Arnica or witch-hazel has the same effect. Heat, when applied later and after the swelling has occurred, is a valuable agent in helping remove the effused material. Rest is the next important procedure in the treatment. The injured part should not be used until the acute stage of the injury is over. This important part of the treatment of athletic injuries furnishes one of the trainer's most difficult problems. The most valuable aid to the athlete in recovery, namely, rest is just the thing that the coach usually thinks the man cannot have. The team needs his services and therefore it is insisted that the injured man play. Too often this is done to the detriment of the player. The player's physical welfare is sacrificed for the reputation of the coach or team. After the pain has subsided and the swelling starts to go down, massage, using one part of bay rum and seven parts oil of wintergreen as a lubricant is recommended. How soon the joint can be used and how much, depends upon the extent of the injury and how fast the healing process takes place. During recovery, and especially if there is to be any undue

strain on the joint, it should be supported in some way. After a sprained ankle has been treated as indicated above, it should be strapped up well with adhesive plaster before the athlete attempts to use it or to play again. He should be able to bear some weight on it a day or two after the injury. As the swelling goes down the cast or support will become loose and a new one will have to be put on. Some use of the ankle will aid recovery, but too much work only impedes it. Therefore the coach should not be in too much of a hurry to get the man back into the game. Sprains sometimes leave the ankle weak, so that some kind of a support is always necessary. It is not desirable to strap up perfectly normal ankles. A shoe that fits snugly about the foot and ankle is all the support necessary. The best support for weak arches is an adhesive cast. Every coach should learn from a physician how to strap the foot and ankle. It is an art practised by many but done effectively by few.

Bruises are the commonest of all injuries. They result from two players coming together in such a way that the muscles, blood-vessels, and other tissues under the skin are injured. Usually they are minor in character but may be so severe as to cause injury to the internal organs. The condition of "Charley Horse" is a bruise of the muscle.



FIG. 23. THE DODGE.—PAGE 39.  
Evading a Charging Guard.



A bruise of any extent presents symptoms of pain, redness, and swelling. Due to the hemorrhage in the tissues the part may turn black and blue. The principle of treatment is the same as with sprains, using cold applications first and later on heat. Painting the part with the tincture of iodine may be tried, as sometimes it seems to help. Massage is very good. It should be done so as to aid the circulation of the injured parts and not so severely as to add to the injury already there. The rubbing should be toward the body. A mixture of equal parts of alcohol, water, and glycerine; cold-cream, bay rum, and oil of wintergreen may be used with the massage. Any lubricant will do, as it is not the material rubbed on, so much as the rubbing itself, which does the work.

Injuries to the knee are best treated by rest, hot applications, and bandaging. An elastic knee bandage or knee pad is valuable in protecting a weak knee.

The following are suggested as a list of supplies that should be kept on hand for the treatment of injuries.

|                         |                           |
|-------------------------|---------------------------|
| Alcohol.....            | 1 pint                    |
| Tincture of iodine..... | 4 ounces                  |
| Absorbent cotton.....   | 1 pound                   |
| Adhesive plaster.....   | 1-half dozen—3-inch rolls |

**Bandages—**

2 inch..... 1 dozen  
3 inch..... 1 dozen

**Unbleached muslin bandages—**

3 inch..... 1 dozen

Scissors

Forceps

Knife

Mixture of bay rum and oil of  
wintergreen..... 1 quart

The points to be considered in equipping a basket-ball team are the desirability of the costumes, as far as the playing of the men is concerned, and also the durability and attractiveness of the suits. The form-fitting, low-neck, and deep armhole shirts are best. The pants should be short, fitting snugly around the waist and not too tight about the hips and thighs. They should be padded over the hips or have a free-hanging hip pad inside. Any good athletic stockings are satisfactory. They should be footless. Socks should fit the foot perfectly and be rather heavy. No one shoe has given universal satisfaction. The thick, suction-soled shoes with high canvas tops are as popular as any. Most teams use their school or club colors in choosing their suits. Every player should have a jersey or sweater to wear when for any reason during practice or in a game he is not exercising enough to keep warm.

Knee and elbow pads, and the like, are not a necessary part of the player's equipment unless, on account of injury or for some other particular reason, there is a special need for them.

## CHAPTER X

### ADMINISTRATION

The work of the coach is greatly lessened if he is fortunate enough to have a good manager for his team. School teams practically always have student managers. To be of greatest service to the team the manager should be a man who has had some experience in this kind of work and who also knows something about the game. Unfortunately, this is often not the case; so many times the appointment or election of a manager is simply that of filling a position with some one who is popular rather than capable. In schools it is well to have assistant managers and always select the manager from one of them. From the standpoint of the team it would be better to do away altogether with the plan of having student managers, and in their place have some one who is paid to do the work and who will hold the position more or less permanently. Students come and go every year, and a manager no more than learns the work and becomes of some value when he is graduated and a new man takes his place. This means inefficiency, and more

cares and work for the coach. The position of manager of a basket-ball team is an important one and much care should be exercised in filling it.

A word regarding the selection of a coach seems appropriate at this point. There are several points that should be kept in mind by school authorities in filling this position. In the first place, the coach should be a man of good character, a man who will have a wholesome influence upon all of those with whom he comes in contact. The coach has other responsibilities besides turning out winning teams. If successful, he often becomes the idol not only of the team but of all the boys in the school, and his influence on the student body is very great. In his position he is able to do more good or harm, whichever it may be, than any teacher in the school, and it is exceedingly important, therefore, that he be a thorough gentleman. It is understood, of course, that the man who is to have charge of the team should understand and know the game well enough to coach it. It is highly desirable also that the coach be a regular member of the faculty and employed for the entire school year rather than just for the basket-ball season. The results of engaging seasonal coaches are often very unsatisfactory, as it is impossible for the man who comes into the school just long enough to coach one particular

sport to appreciate the aims and ideals of the institution, and, as a result, we often find a complete lack of harmony between the coach and the other instructors of the school.

One of the most important duties of the manager is the arrangement of the schedule of games. Usually school teams play their most important games in some kind of a league, and it is the scheduling of these contests that should receive the greatest care. One thing to keep constantly in mind is that, other things being equal, basket ball is a game that is won on the home floor and lost away from home. The visiting team usually has to be from ten to thirty per cent better than their opponents in order to win from the home team. The obvious reason for this is the difference found in the basket-ball courts. The schedule, therefore, should contain as many home games as possible, especially with the opponents that the team is most anxious to defeat. If the school has any particular rival it should be scheduled when the home team is most likely to be playing in its best form, which is usually at the end of the schedule. The easiest games should come first and the hardest ones last, the final game being one that will keep the players interested and working hard right up to the final day. If weak teams are scheduled toward the end of the

season there is a tendency not only for the team but also the crowd to lose its enthusiasm.

When arranging for a trip it is best not to schedule more than three games. Coaches differ in their opinion as to which of the days the team will play the best ball when on the road. The writers have observed that in most cases a team plays best the first and third days. The schedule should not be too long. Ten to fourteen championship games are sufficient and the last game should be over by early spring. Basket ball is primarily an indoor sport and it loses its attraction and fascination when the weather begins to grow warm.

The work involved in the local preparation for basket-ball games is becoming more extensive each year. This is true in all branches of school sports. Formerly, it was a very simple matter to arrange a schedule, secure officials, take care of the crowd, and manage the game, but with basket ball increasing in popularity, and more and more interest being shown in the sport, the problem of administration has become much more difficult. Basket ball is our most popular indoor sport. In many schools the interest is so great that the gymnasium cannot accommodate the crowds. As a result, more attention and care is being given to the various phases of its management.

The first step in preparation for a game is to see that it is properly advertised. In some schools there is a publicity department that handles all this work, but usually it falls upon the manager of the team. The most common method of advertising is through the use of the college and town or city newspapers and the distribution of posters. All of these are of value, but the best way of insuring a good crowd is to create an interest and work up enthusiasm among the students through the various school organizations. Try to have as many of the students as possible feel a responsibility for the support of the team. Feature the important games and make a drive aiming at one hundred-per-cent attendance. Turn the management of certain games over entirely to the school and alumni organizations. Make a certain group responsible for one game and a second group for another, and so on. A good way to get all the alumni interested is to turn one or two games over to them.

The officials of a basket-ball game are a referee, an umpire, two timekeepers, and two scorers. Whether or not a game is run off satisfactorily depends, to a large extent, upon their efficiency. It is very important that they all know their duties and are perfectly capable of handling any situation that may arise during the game. Too

much emphasis cannot be laid upon the importance of getting competent and impartial officials. It may be a little more expensive to get good men, but it always pays and the investment is worth while. It is a great mistake to engage incompetent officials and thus spoil a good game in order to save a little money. Arranging for the officials should be taken up far enough ahead of the game, so that the matter can be satisfactorily settled with the visiting team. While the home team assumes the responsibility of engaging the officials, they should be mutually agreed upon. It is a good policy to submit a list of officials to the visiting team and choose the men from those acceptable to your opponents. In many places there are lists of officials who have been approved by the particular organization in that section, and it is well to choose men from that list.

It sometimes saves misunderstanding and trouble if the officials, captains, and coaches of the teams get together before the game and have a short discussion on the interpretation of the rules. This is of importance because the rules are so differently interpreted by the various coaches and officials.

The duty of the scorers is to record the goals made, the fouls committed, and to notify the referee as soon as the fourth personal foul has

been called on any player. A satisfactory way to do is to use one local man and some one who is accompanying the visiting team. Each should use his own score-book and compare scores after each goal.

The timekeepers can be chosen the same way as the scorers. Their duty is to keep a time record of the game, noting when the game starts, deducting time taken out during the game and designating when each half is over. The suggestion of the official Rules Committee that the timekeepers use one watch placed where both can see it is a good one.

There are several matters which sometimes cannot be attended to until the day of the game. Unfortunately, some of them are too often put off until the game is ready to start. A great deal of care should be used in getting the gymnasium ready, in putting up seats to accommodate the crowd, in seeing that there is good light and ventilation and making sure that the court, including the baskets and backboards, meets the official requirements. Another matter to be arranged is the care of the visiting teams and officials. This should mean having some one meet them at the train, conduct them to their hotel, and entertain them while they are in town. In the gymnasium both the teams and officials should have good



FIG. 24. INCORRECT GUARDING, FOUL.



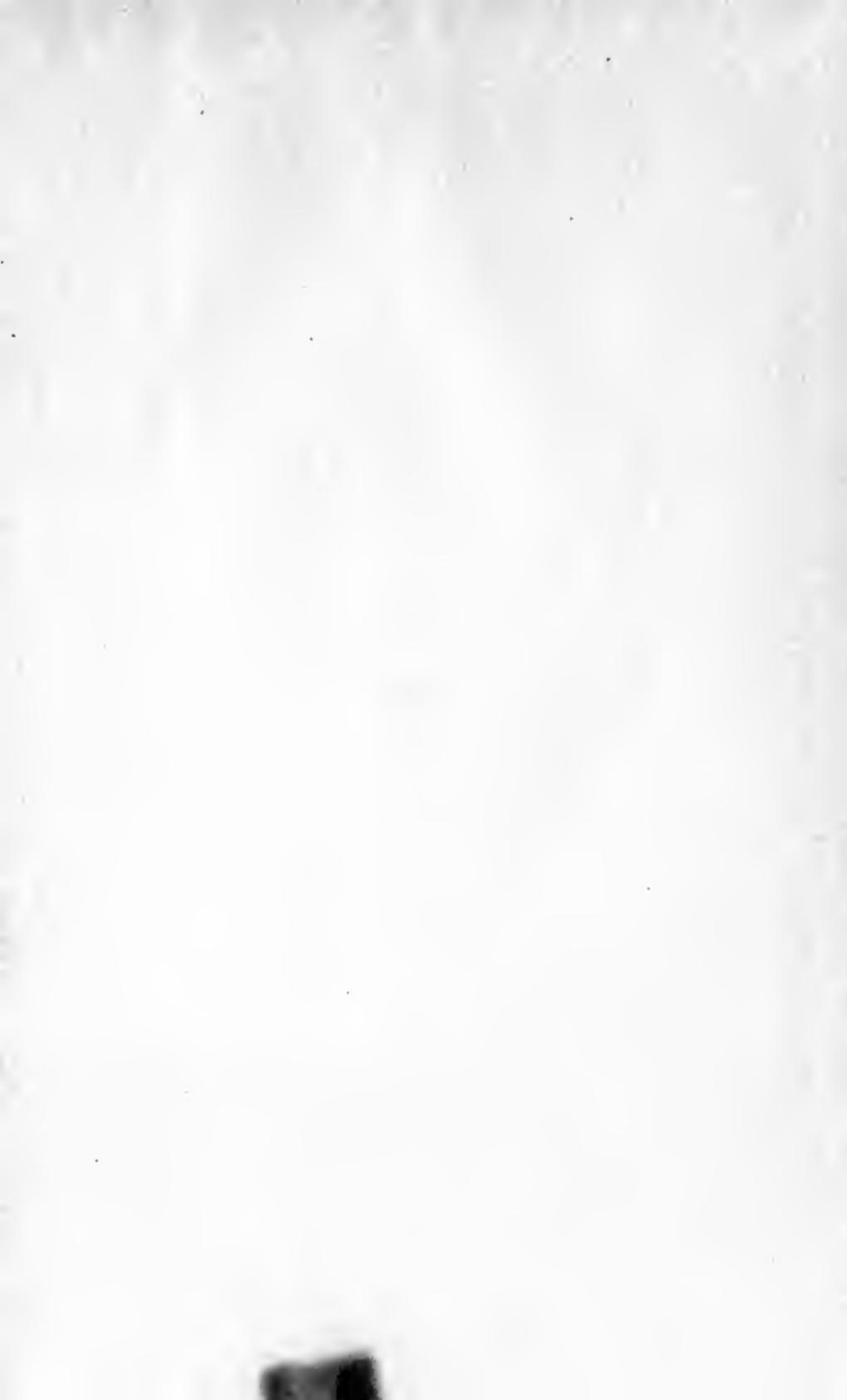
dressing-rooms and be supplied with everything they need in preparation for the game. The impression that a visiting team gets of a school depends a great deal on the way they are received and treated by those in charge. It is always desirable to establish and maintain as pleasant social relations between teams as possible, and much can be done to accomplish this by just a little care and attention to the ordinary courtesies which we should be willing to extend to our visitors.

## CONCLUSION

Basket ball is a game which, through ignorance of principles and purposes, may easily degenerate into a rough-and-tumble affair in which not only the spectators lose interest, but from which the players themselves derive little or no benefit and may be even worse off for having played the game. On the other hand, when well organized, properly supervised, and played, it is one of the best sports to develop interest and enthusiasm on the part of the spectators and for the player's physical, mental, and social betterment. No game develops to a greater extent qualities of virile manhood and good citizenship than basket ball. The game demands skill, speed, and endurance. The successful player must be able to think quickly and clearly. Situations change rapidly in basket ball and but little time is given to size up the play and determine the player's line of attack. Good team-work is essential for the success of the team. This means co-operation. Self has to be sacrificed to the team as a whole. Due to the fact that the game is so fast and played on such a small court, situations are constantly arising which demand self-control. Finally, the game calls for

a fighting and courageous spirit. The man or boy must not only keep himself fit and in good condition, but he must have that determination which characterizes a fighter and which will carry him through a long and strenuous basket-ball season.





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